Infantry

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The United States Infantryman — A Man For All Seasons.

USAIS

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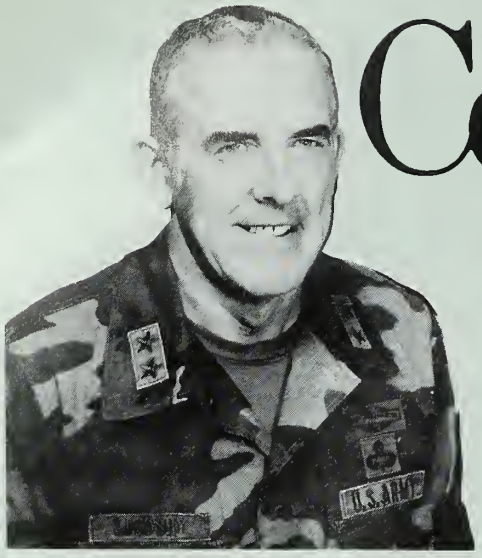

Commandant's NOTE

Major General James J. Lindsay
Chief of Infantry

MOUT

Large numbers of the world's people now live in urban areas, and these numbers continue to increase at a rate that exceeds all expectations. The resulting urban sprawl will have a significant effect on our future battlefield mobility and maneuverability. It is clear that we in the Infantry must be prepared to fight and win in this urban environment.

The Army's tactical doctrine concerning military operations on urbanized terrain (MOUT), as outlined in various manuals, reflects the transition in Army thinking from its former strict orientation on "combat in cities" to the more complex problems of fighting in today's large and sprawling urban masses. (This doctrine is found, for example, in FM 100-5, Operations; FM 90-10, Military Operations on Urbanized Terrain (MOUT); and FM 90-10-1, An Infantryman's Guide to Urban Combat.)

We at the Infantry School recognize these complex problems and have developed a number of programs to help the Infantryman master the art of urban combat. In our noncommissioned officer and officer courses, for instance, we provide a bedrock of MOUT instruction, the purposes of which are to teach doctrine, to foster training standardization, and to train the trainers. And in our One-Station Unit Training, we train our new soldiers in such basic techniques as entering, clearing, and exiting buildings.

Our new multi-building MOUT platoon training complex, which is scheduled for completion in early 1984, will permit us to increase both the scope and the realism of all our MOUT training courses. Although we will not be able to use live fire in this facility, we will use MILES devices for force-on-force exercises. We are also developing a MOUT assault course (MAC), a multi-station course that is designed to train both individual Infantrymen and Infantry teams. With this course, we will be able to use live fire in addition to MILES devices.

To add greater depth to our MOUT instruction, we are using a number of simulation devices and are developing others for the future. A major undertaking has been the development of a MOUT simulation system that incorporated interactive video discs to provide our soldiers with realistic decision-oriented training. Thus, by viewing a television screen and operating a hand controller, a leader can conduct a reconnaissance of streets and buildings with complete visual freedom. Our initial scenario, which involves the defense of a German village against a Threat force, is run in three phases and allows individul leaders to experience the outcome of their decisions, good or bad.

Still other types of battle simulations may prove valuable in the future. One of these is Blockbuster, a manually played terrain board simulation, which has been developed and tested and sent this year to some field units. Another is the jointly produced American, Canadian, Australian, British urban game (ACABUG), a computer-assisted simulation wargame, which can be used to represent a reinforced infantry company defending either an urban or a rural area against a Threat force.

Whatever devices and facilities we may use in the future, we will continue to place a high premium on seeing that all Infantrymen study, develop, and maintain their MOUT skills. There is much we must do to apply our new weapons and time's changing conditions to this special environment.

We have a long way to go before we fully understand all of the problems involved in training to fight on urban terrain, but we are beginning to find solutions to them. We are striving to ensure that the training we are conducting here at Fort Benning will fully prepare our Infantry leaders and soldiers for fighting and winning in a MOUT environment anywhere in the world.

INFANTRY NEWS

THE INFANTRY'S FIRST master gunners were graduated recently after 11 weeks of training at Fort Benning. Formerly, the title of master gunner belonged exclusively to the Armor branch.

The term itself — master gunner — implies more than gunnery. The noncommissioned officers who attended the course and graduated from it are now back in their companies and battalions where they are helping their commanders train soldiers on the Bradley infantry fighting vehicle.

A TANK BATTALION at Fort Knox is testing a new filing system that may eventually replace the Army's 30-year old functional file system. It is called MARKS, for Modern Army Record Keeping System, and it makes filing easier by keying the files to the numbered administrative publications they fall under.

More testing with MARKS is scheduled in 1984. The new system could be adopted for use by 1986.

THE U.S. ARMY Armament, Munitions and Chemical Command (AMCCOM) was formally established on 1 July 1983 with its headquarters at Rock Island, Illinois.

The new command incorporates the missions and resources of the Army's Armament Materiel Readiness Command (ARRCOM), whose headquarters was at Rock Island, and the Army's Armament, Research and Development Command (ARRADCOM) at Dover, New Jersey.

AMCCOM's primary mission is the life cycle management of weapons, ammunition, and chemical materiel. It is also the single manager for the procurement, production, supply, maintenance, and transportation of conventional ammunition for the Defense Department.

AMCCOM is a major subordinate command of the Army's Materiel Development and Readiness Command (DARCOM).

THE NATIONAL INFANTRY MUSEUM has ordered stained glass panels that depict the patches of the 71st Infantry Division and the 172d, 193d, and 199th Infantry Brigades. These panels will be added to those now on display, which show the patches of the Active Army infantry divisions.

The Government of Switzerland recently donated to the Museum four Swiss military forces combat and duty uniforms. These have been added to the collection of Swiss weapons the Museum now has, a collection that includes a 16th century two-handed edged weapon. The presentation was made by the Swiss Military Attache to the United States during a recent visit to Fort Benning.

A number of other items of interest have been added to the Museum's collection. One is an M1903 Springfield rifle that was won by the late Brigadier General Claudius M. Easley (then a captain) in 1924 for establishing a world record with that weapon. A range at Fort Benning is named in honor of General Easley.

Two other weapons — a Model 1912 Winchester riot gun and a Winchester Winder musket — were also given to the Museum by Lieutenant Colonel (Retired) C.M. Easley, Jr., the General's son.

Veterans of the 503d Parachute Infantry Battalion have given the Museum the first U.S. flag that was raised over Corregidor following the recapture of the island by American forces. The flag is tattered and stained, but it is a precious reminder of the men who gave their lives in defense of the freedom of their country. The flag will be displayed in the Museum's airborne section.

Other items of interest that the Museum has recently added to its collection include books, swords, a 4th Infantry flag staff finial, two 19th century French revolvers, a Greek flintlock pistol, a World War II Women's Army Corps uniform, and a Revolutionary War matchlock pistol.

The Museum is planning an exhibit to honor the Army's Rangers and is in the process of collecting material for display. It has also launched a project to secure a complete World War II military glider or, if that is not possible, a portion of a glider, such as a wing, a tail section, or a complete cockpit. This will be used as part of an exhibit that will honor Airborne Infantrymen.

The Museum recently placed on loan with the Battleship Memorial Park on Mobile Bay a number of artifacts and display support items, including World War II and Korean War period military clothing and equipment. These will be displayed aboard the battleship USS *Alabama*.

The National Infantry Museum Society, formed at Fort Benning a

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number of years ago to assist the Museum with financial and volunteer support, is open to anyone who is interested in joining. The cost is $2.00 for a one-year membership, or $10.00 for a lifetime membership.

Additional information about the Museum and the Society is available from the Director, National Infantry Museum, Fort Benning, Georgia 31905, AUTOVON 835-2958, or commercial 404/545-2958.

THIS PROTECTIVE SUIT, which was developed by the Army's Natick Research and Development Laboratories, consists of five components: coat, trousers, helmet, bonnet, and one-piece chest and face plate. The

suit forms a protective system that is effective and functional for soldiers who must defuse and dispose of explosive devices.

Future testing of this protective suit will provide the data that will be needed to make any alterations and modifications to ensure that the Army's needs are met.

THE FOLLOWING NEWS ITEMS were submitted by the Infantry Board:

• **High Technology Light Division (HTLD).** The 9th Infantry Division at Fort Lewis, Washington, is to be reorganized as a High Technology Light Division (HTLD) by 1985. To accomplish this, the Division has been experimenting with organizational and operational concepts to refine its force structure requirements and its tactical doctrine.

The HTLD must be capable of deploying rapidly anywhere in the world to conduct contingency missions. It must also be a highly mobile fighting force that is capable of conducting mounted actions against all types of enemy anywhere on the extended AirLand battlefield.

The Infantry Board, in conjunction with the Army's Development and Employment Agency (ADEA), recently evaluated the light motorized infantry battalion (LMIB), the light attack battalion (LAB), and the assault gun battalion (AGB) during an eight-day division field test exercise (FTX) at Yakima Firing Center, Washington.

The FTX was a free-play exercise using predetermined scenario events. The battalions, as parts of a High Technology Light Brigade (HTLB), first conducted a tactical lodgment exercise. This was followed by movement to contact, deliberate attack, delay in zone, defense, counterattack, and deep strike missions. All the battalions operated as task forces and were opposed by an OPFOR that consisted of elements of a motorized rifle regiment reinforced with armor, artillery, airmobile, attack helicopter, close air support, and NBC assets.

Each of the three battalions was individually evaluated as it performed its various missions. Before the battalion tests, the LMIB conducted squad, platoon, and company exercises, and the LAB and AGB conducted company level exercises, all at Fort Lewis. The test objectives included training; mobility; deployability; firepower; command, control, and communications; logistics; administration; organization; intelligence; mission performance; human factors; and survivability.

The LMIB consists of three light motorized infantry companies, the troops of which are mounted in high mobility multi-purpose wheeled vehicles (HMMWVs); one light motorized antiarmor company; and a headquarters and headquarters company. The battalion must be capable of conducting mounted, dismounted, and airmobile operations; providing long-, medium-, and short-range antiarmor fires; providing direct and indirect antipersonnel fires; and operating on all types of terrain in any weather condition during the day or at night.

It must also be able to conduct hasty attack, deliberate attack, deep strike, raid, reconnaissance, ambush, airmobile, screen, counterattack, delay, withdrawal, defense, rear area combat operations (RACO), and military operations on urbanized terrain (MOUT) missions. Upon contact with an enemy force, or when in a defensive position, its infantrymen will dismount and use their vehicle-mounted weapons in the support role.

The LAB consists of three light attack companies, the troops of which are mounted in fast attack vehicles (FAVs); a combat support company; and a headquarters and headquarters company. Its mission is to destroy, degrade, and disrupt an enemy force through offensive maneuvers and stand-off attacks by fire. In the close-in battle, the LAB will take part in offensive, defensive, or retrograde operations. In restrictive terrain, the LAB elements will conduct such missions as controlling lines of communication, security, and other like activities. The LAB must be able to conduct hasty attack, deep attack, raid, reconnaissance, ambush, airmobile, screen, counterattack, delay, withdrawal, RACO, and MOUT missions.

The AGB consists of three assault gun companies, the troops of which are mounted in light attack vehicles (LAV-25), and a headquarters and headquarters company. The LAV is armed with a 25mm gun. A battalion must be capable of conducting mounted operations; providing long-, medium-, and short-range antiarmor fires; providing direct and indirect

antipersonnel fires; and operating on all types of terrain in any weather conditions during the day or night.

The AGB must also be able to conduct hasty attack, deliberate attack, attack by fire, deep strike, raid, reconnaissance, ambush, airmobile, screen, counterattack, delay, withdrawal, defense, RACO, and MOUT missions. Its primary mission is to destroy enough enemy vehicles to disrupt an enemy attack and to slow an enemy's movement by forcing him to dismount his infantry, which can then be engaged by other weapon systems. The AGB elements will assault an objective only after enemy antiarmor and heavy automatic weapon systems have been suppressed or destroyed.

All three battalions must be highly mobile, maneuverable, deployable (both in a strategic and an intratheater way), and capable of surviving and being sustained on a modern integrated battlefield. They must also have the necessary firepower to carry out their assigned missions.

Although the LMIB and the AGB must be capable of conducting combat missions when in a pure configuration, they will normally operate as task forces.

• **XM40 Protective Mask.** The Army has identified a need for a new protective mask that would provide increased protection against field concentrations of chemical and biological agents. A new mask, which would replace all of the field masks now in use, would also have to reduce the logistical burden on the supply services and have better storage characteristics.

Different models of masks have been tested during the past few years, but none have improved over the masks they were intended to replace. The Chemical Research and Development Center, though, has recently designed and fabricated a prototype XM40 mask that combines the desirable features found in the masks that had been previously tested.

The Infantry Board tested this prototype mask to provide the Center with data on the mask's compatibility with infantry equipment, on its optical properties, and on its design and safety considerations.

The XM40 masks that were tested used a green silicone faceblank and nose cup assembly with integrally molded harness tabs and an adjustable headharness. A natural rubber panel was bonded over the faceblank, which contained the side-mounted filter canister, outlet valve and cover, and two voicemitters.

The M17 and M25A1 field protective masks were used as comparison (control) items during the test.

The test soldiers were riflemen, machinegunners, mortar crewmen (including fire direction center personnel), TOW gunners, and armored vehicle crewmen. Six times they fired their assigned weapons according to published familiarization tables — once not wearing a mask, once wearing an appropriate control mask, and once wearing each test mask. The crew-served weapons gunners also fired a night familiarization course using night sights while completely unmasked, then wearing a control mask, and finally wearing each test mask.

Drivers alternated the use of the test and control masks at night to provide the data needed to assess the compatibility of the test mask with night vision goggles and night vision periscopes.

Combat spectacles were worn by selected test soldiers to see if the test masks provided enough face relief.

The Chemical Research and Development Center will use the test results to formulate decisions concerning the full scale development of the XM40 masks.

THE ARMY IS developing a simple, rugged, low-cost battlefield navigation aid to assist vehicle drivers in traversing the highly mobile and ever-changing battlefield of the future.

The aid uses fluidic technology pioneered by the Harry Diamond Laboratories two decades ago. Fluidics is a way to build sensing and control systems that have no mechanical parts. It can produce systems that have low initial costs, high reliability, and little or no maintenance requirements.

The first all-Army fluidic navigation aid will consist of a heading reference unit. This will let a vehicle operator enter manually the bearing of his vehicle into the unit, while a sensor will keep track of changes in that bearing.

By early 1984, the Army expects to have a first-generation battlefield navigation aid system that will use a state-of-the-art flat panel display and a heading reference sensor to perform a more complex navigation function. This system will display a vehicle's position, heading, and course as a series of luminous dots on a display screen, and will provide a printed standard digital readout of coordinates and bearing.

THE ARMY RESERVE Personnel Center (ARPERCEN) became operational on 1 October 1983 at St. Louis, Missouri. It is a field operating agency reporting directly to the Chief, Army Reserve.

The functions ARPERCEN performs were transferred to it from the Reserve Components Personnel and Administration Center (RCPAC). ARPERCEN is located with RCPAC at 9700 Page Boulevard.

The following RCPAC elements were transferred to ARPERCEN: Reserve Officer and Enlisted Personnel Directorates; Physical Evaluation Office; Removal and Transfer Branch; Evaluation Reports and Inquiry Division; Chaplain's Office; General Officer Management Office; Surgeon; Long Tour Management Office; and Comptroller.

Visiting MILPERCEN

LIEUTENANT COLONEL DANIEL M. SHAMANSKI

So, sergeant, you want to visit MILPERCEN? Maybe "want to visit" is not the right term — maybe you *need* to visit. If you do, the place to go is Room 212, Hoffman Complex I, the U.S. Army Military Personnel Center, Alexandria, Virginia.

Room 212 is the Enlisted Information and Assistance Office (I&A). It is staffed by three people — a master sergeant is in charge, assisted by a sergeant first class and a receptionist. It's just an ordinary room with a window (overlooking one of the many parking lots), some reading materials, a TV set, and a fish tank. But lots of drama takes place in this room, and not all of it is on the TV set.

"Drama" is sometimes synonymous with "soldier," and soldiers trek to Alexandria by the hundreds with dramatic problems, some of which require pretty dramatic solutions. MILPERCEN operates this office to help those visiting soldiers find some of these solutions. It is the main point of welcome to the Enlisted Personnel Management Directorate and is technically supervised by the Enlisted Personal Actions Division.

Like many soldiers, you may have a fundamental fear of visiting "DA," because you think it might lead to an assignment in Timbuktu or to getting some "bad things" into your file. But this is not true. And when your local Military Personnel Office has not been able to help you with a question or a problem, a visit to MILPERCEN can be a good idea. Lots of people do it.

WHY THEY COME

An average of about 120 soldiers a week visit the I&A office with the peak periods being in December and June. They come for all kinds of reasons: Some are just increasingly aware that they need advice on their career progression; others are concerned with such matters as assignment preference, joint domicile, promotion, schooling, permissive attachment, skill qualification testing, and reclassification into another MOS, compassionate deletion/diversion/reassignment, and the many other areas of interest that any army of soldiers might have.

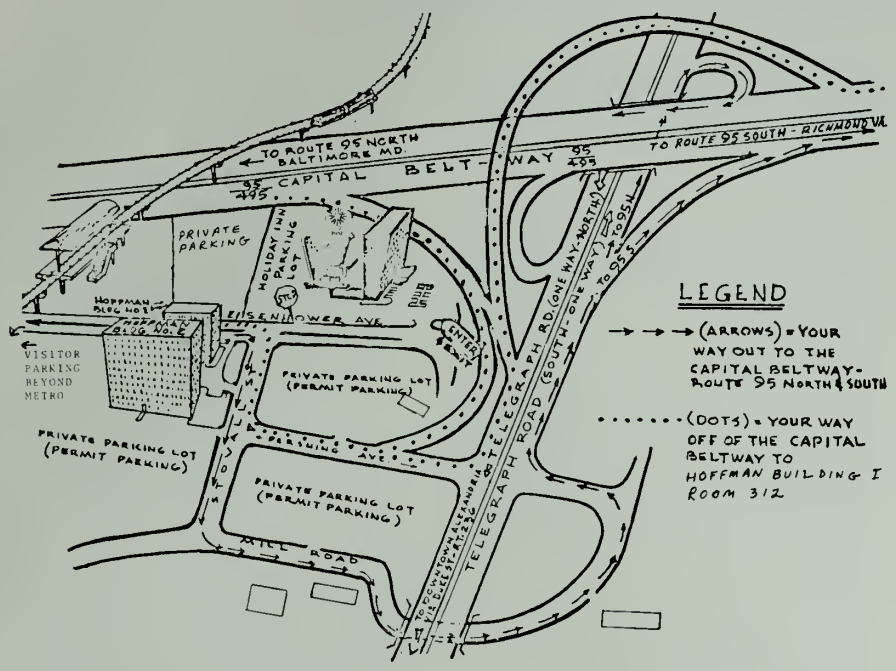
(Over the years, staff sergeants have formed the predominant group represented in the visiting body. Apparently, the soldiers in this group have a greater awareness of their career needs and want more advice on career progression. On the lower side of the grade scale, soldiers are more concerned with assignment preference and joint domicile. On the higher end, senior noncommissioned officers visit for a mixture of reasons.)

So come on up.

But, first, how do you get here? (Asking and answering this question is not intended to insult your intelligence — thousands of visitors have told us that one of the most trying parts of their trip was to get to the right room in the right building.)

First, the Hoffman complex is off Interstate 95, Exit 2N (Telegraph Road North). Hoffman I and II sometimes cause confusion. Each houses a separate entity, but for purposes of this discussion, Hoffman I is for enlisted soldiers, Hoffman II for officers. (Hoffman I has affixed to it on the outside left wall a sign designating the "United Virginia Bank," a co-located commercial enterprise.)

As you approach the final leg of your journey to MILPERCEN, you may find it beneficial to use the map shown here for reference and to call



202/325-7791 (0700-1700 weekdays) for specific directions. After duty hours, a tape recording will guide you to the Hoffman complex. If, upon arrival, you have a bona fide emergency, you can call the MILPERCEN Staff Duty Officer at 202/325-8851 for help.

If you arrive early or care to stay over, just across the street from the Hoffman complex is a Holiday Inn. Tour bus services are also available.

A visitors parking area is on the east side of Building I under the Metro overpass. You should park in one of the red-lined, numbered spaces and sign your parking space number in with the guard in the lobby.

Once you're in the building, just follow the signs to Room 212, the "room with the red rug." At the receptionist's desk, you will be briefed (again) on parking procedures, just to be sure your car isn't towed away into the heart of Alexandria.

If your wife and children have accompanied you on the trip, they will find Room 212 a friendly place to wait for you. There is the TV set (and the fish tank), and there are also games for children and some reading materials. A cafeteria is available on the ground floor.

Once you've checked in with the receptionist, you'll be asked to fill out an information sheet explaining the purpose of your visit. Then a call will be placed to your career management division, and someone will be sent to meet you — most likely your Professional Development NCO. After all, he has been hand-picked for the job because of his extensive field experience and his familiarity with Army procedures. If you're affiliated with a regimental unit, the Regimental Adjutants are co-located in the I&A office and can be called upon to help you. In either case, interview rooms are available in which you can be assured of privacy.

After you've talked with your interviewer, you may find that your problem has been solved. We can't say we work miracles, but in trying to help you we do explore every angle within our governing directives. If you're not satisfied with these efforts, you can ask to see the person next in authority, and in most cases you will be able to do so.

Later, you will be given a questionnaire to fill out. It is optional, but if you want to complete it, the questionnaire gives us a way of evaluating the service you have received and of making our operation more efficient. The questionnaire will *not* become a part of your CMIF (Career Management Information File), so you can feel free to tell us frankly what you liked or didn't like about the service.

We are not here to give you a bureaucratic run-around; we realize, in fact, that an informed Army is a more effective Army. We fully understand that you are not a personnel administrator, just a soldier trying to get a problem solved and do his job.

Your responsibility in this cooperative venture is to bring with you any documentation you may need to substantiate the reason for your visit. These documents might be court orders, affidavits by third parties, birth certificates (authenticated), and any number of other papers. The better you have prepared your case, the easier it will be for us to help you.

A point worth mentioning here is the distinction between your CMIF and your "official" records. The records that determine promotion and centralized school selection are maintained at Fort Benjamin Harrison, Indiana. It is those records that you must keep up to date, and placing documentation in your CMIF at MILPERCEN will not do that. You get documents into your official file when your MILPO forwards them on a transmittal letter to Fort Harrison.

Remember, your commander, first sergeant, command sergeant major, and local MILPO are the quickest and least expensive ways to deal with any problems you may have. If these don't work, you can call the I&A office and someone will give you the name and number of someone to assist you. Then if that doesn't work, by all means, visit your Enlisted Personnel Management Directorate — starting with Room 212.

Our soldiers *are* the Army!

LIEUTENANT COLONEL DANIEL M. SHAMANSKI is Chief of Enlisted Compassionate Assignments at MILPERCEN. Commissioned through OCS in 1964, he served as a platoon leader in Vietnam. He is a graduate of Columbus College in Columbus, Georgia.

Directed-Energy Weapons

MAJOR CLARK P. CAMPBELL

A new generation of direct-fire weapons is about to appear on the battlefield. Technology in both the East and the West is rapidly approaching the point where tactical directed-energy (DE) weapons can be mass produced.

DE systems have the potential to perform more efficiently than conventional systems in numerous battlefield tasks. As technology permits, specific DE systems for these tasks may appear on the battlefield, although some of the desired systems may not be possible until well into the next century.

Nevertheless, to win battles in the next war, our soldiers must understand this new weaponry. Planning and training for operations in a DE environment cannot wait until our forces are engaged in combat.

The types of directed energy most likely to be developed for battlefield tasks fall generally into four categories: laser, radio frequency, particle beam, and sonic.

These four types of directed energy have some common characteristics that are essential to an understanding of their natural advantages and limitations:

- Potential DE weapons — with the exception of nonnuclear electromagnetic pulses (EMPs) — are direct-fire systems; they must have line of sight to hit the target.
- DE systems are fast. The beams from laser, radio frequency, and particle beam weapons travel at near the speed of light. (For example, in the time it takes a laser beam to travel one mile, a targeted aircraft traveling at Mach 2 moves a little more than one-eighth of an inch.)
- DE systems are adversely affected by precipitation, dust, and other obscurants.
- DE systems have unique signatures that make it easier to identify, locate, and destroy them.
- DE systems are not magic; they obey the laws of physics. Common sense countermeasures, therefore, can be extremely effective.

Laser

The laser is the system most people envision when they think about directed energy. Lasers project amplified beams of stimulated light that transfer radiant energy. Depending on the power levels of the system, damage from lasers may vary greatly. They can temporarily blind the human eye, or they can burn through the skin of an aircraft.

Identifying enemy laser systems will be difficult. Not all lasers are formed from visible light; therefore, observers will not always see a beam. Laser systems may be fielded in a variety of sizes, from a low-powered, handheld weapon to a high-powered system mounted on a tank chassis or in a fixed site. The medium- and high-powered systems may provide a detectable signature of ionized air that will partially surround the beam. This ionized air will glow for several seconds, smell of ozone, and crackle like high-voltage electricity.

Lasers are nonballistic — they will hit where they are boresighted. For practical purposes, then, they are limited by line of sight, not by range. As an example, a laser with the power to melt the windshield of an aircraft at 6,000 meters will have enough power to blind personnel at ranges well beyond 10,000 meters. Most terrain, though, will not support surface-to-surface shots beyond 5,000 to 6,000 meters.

Smaller, more mobile laser weapons may have broad beams (up to 5 meters in diameter at 5,000 meters). They will be used primarily to destroy optics, to crack and melt cockpit coverings and vehicle wind screens, and to destroy the eyesight of soldiers.

Medium- and high-powered lasers will be mounted on large vehicles or set up in fixed sites. Their primary purpose will be to destroy aircraft, thin-skinned vehicles, and other soft targets. They may be used also to blind armored vehicle crewmen or to channel the vehicles so they can be destroyed more easily by conventional systems. As with other direct-fire systems, lasers will normally be employed in pairs to cover each other.

Lasers require state-of-the-art fire control and normally must be held on the target for several seconds to burn into the target's electronics, fuel, or ammunition. Unfortunately, the human eye can be destroyed in milliseconds by medium- and high-energy systems.

Although lasers seem to be the perfect weapon, their effectiveness can be kept to a minimum. The easiest and surest way to foil a laser system is

to use terrain in much the same way it is used to avoid other types of direct fire. The atmosphere, too, diminishes the effectiveness of lasers, and dust, snow, fog, and rain all limit the range and the effectiveness of a laser beam. In addition, the higher the power of the laser, the greater the effect of obscurants. For example, before a unit assaults, artillery can be used to stir up dust and smoke in the vicinity of suspected lasers to effectively deny the enemy the full use of his DE systems.

Current night sights, night-driving devices, and night-vision goggles can all be destroyed by lasers, although they will not damage the eyes of the soldiers using these devices. Protective masks and hoods can be used to protect vision by reducing the vulnerability from peripheral shots. In addition, vision blocks and windows on vehicles can be partially or completely screened with expedient curtains.

Many laser beams that are invisible to the eye will be visible through thermal sights or, during periods of darkness, through night-vision devices. Once detected, a laser beam can be traced back to its location, and the system can be destroyed by artillery or direct fire. Lasers will not normally be employed in cities because of the large number of polished surfaces that can reflect beams and endanger supporting troops.

Particle Beam

A particle beam weapon directs a beam of atomic or subatomic particles that can be either charged or neutral. They differ from other forms of directed energy in that they transmit matter, not just waves of energy. When and if they appear on the battlefield, particle beams will resemble in appearance and effect the "Buck Rogers Death Ray." Fortunately, technology seems to be a long way from producing a tactical particle beam system.

But if particle beam weapons do appear, and if one is operating nearby, its signature will be the visible sheath of ionized air around the beam, a noise like thunder each time it fires, and high levels of radiation in the vicinity of the beam. Particle beams will completely destroy all targets in their line of sight. In addition, particle beams will penetrate buildings, vehicles, armor, or even several layers of sandbags. They will not pass through terrain features, but they may scatter enough radiation to harm any personnel directly under the beam.

Countermeasures against particle beams are limited, but one practical solution is to identify possible sites early by detecting radiation. Particle beams will be severely affected by precipitation, dust, and electrical storms, and their beams will not travel well under these conditions. The system can thus be approached with less risk.

Early particle beam systems will be large, with their crews separated from the projector to avoid radiation hazards. To operate, they will require either tons of chemical fuels or some type of nuclear power. Particle beams, therefore, are clearly the most unlikely type of directed energy to use for a tactical weapon. But if they are used, their effects will be catastrophic.

Sonic

Sonic weapons project compression waves that may be generated by mechanical or electronic means. These waves differ from radio frequency waves in that they are transmitted by vibration of the atmosphere, and they travel at the speed of sound. Most research with sound has been conducted within the range of human hearing, but infrasonic (below the audible range) and ultrasonic (above the audible range) sound also may have military potential.

Sonic systems will be relatively short range. A high power system could have damaging effects only out to about 2,000 meters, and the projectors could be identified by large horn-shaped sirens or parabolic dishes. This newcomer to directed energy is expected to be used as an antimateriel system (mine clearing, for example).

Sonic waves may have the potential to blur vision and cause nausea, fear, and confusion, but research into this potential has been limited.

A practical countermeasure for sonics is to move to the flanks and take advantage of the system's limited range. Terrain, precipitation, and obscurants will not provide a significant amount of protection inside the weapon's effective range, but the horn or dish of the projector will be vulnerable to both direct and indirect fire.

Radio Frequency

Radio frequency weapons include microwave, millimeter wave, and nonnuclear EMP. A nonnuclear EMP is the only type of directed energy that has a potential for indirect-fire delivery. It has no antipersonnel capability, and countermeasures against it will come primarily from good operations security and equipment hardening.

Radio frequency beams travel in much the same way as light waves do, but they are absorbed and reflected differently. The radio frequency waves pass through glass, plastics, and fabrics with little or no energy loss and guide on metallic objects such as wires. In addition, radio frequency systems are not as susceptible as lasers are to weather and obscurants. Their beams are invisible both to the eye and to current night-vision devices. Radio frequency systems can be detected by locating the parabolic "dish" antenna used to direct the beam.

Radio frequency systems will be used to damage electronics and to cause injury to personnel. A soldier who is engaged by an undetected radio frequency weapon, for instance, may first notice intense pain from burned skin or heated bones.

Operational ranges for radio frequency systems will be less than those expected of a laser, but it is possible to have mobile systems that can damage personnel and equipment at several thousand meters. The diameter of a beam can be expected to be consider-

ably larger than the beam of a laser system.

Obviously, the best way to counter a radio frequency weapon is to detect it before entering its field of fire. Possible locations of radio frequency weapons can be determined by conducting a map analysis to determine the best fields of fire. Once detected, the "dish" antenna is vulnerable to damage from artillery and direct fire.

Tactical radio frequency systems will have little effect on personnel inside armored vehicles. A suggested countermeasure is to prepare an armored vehicle by removing antennas, disconnecting radios, covering unneeded vision blocks, and buttoning up. Then the radio frequency system can be flanked and destroyed.

Radio frequency systems in built-up areas will be more difficult to counter as they may be employed at very close ranges, penetrating all but the thickest of structures by way of openings, wires, and pipes. In this situation, basements and sewers can be used for moving to positions from which the radio frequency weapon can be destroyed.

If a dismounted soldier is hit by a radio frequency beam, the only countermeasure he can take is to drop to the ground and crawl to the nearest cover. Unless the device is extremely close, his chances of survival are excellent as the waves take at least several seconds to cause incapacitating burns.

CONCLUSION

Many of these directed energy weapons may sound highly futuristic and therefore not worth worrying about right now. But this attitude in the past has wasted thousands of lives. In 1914, for example, professional soldiers did not recognize the effects the machinegun would have on their tactics and operations until it had done considerable damage.

The first units to come under attack by directed energy weapons will succeed or fail on the basis of their knowledge and training. Even if hardened equipment and protective clothing are not available to these units, they can still deal with DE systems by taking advantage of the natural vulnerabilities and limitations and by teaching their soldiers to apply common-sense countermeasures.

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Reorganize Platoon

LIEUTENANT COLONEL RALPH A. HALLENBECK

There are several problems with the currently prescribed organization of an M113-equipped mechanized rifle platoon, problems that might well be solved by a proposed new organization.

Under the current organization, a mechanized rifle platoon has three identical rifle squads and a platoon headquarters. Each squad has an M113, as does the platoon headquarters. Each squad APC has one radio, and the headquarters track has two. Each squad APC also has a caliber .50 machinegun and a Dragon that is mounted at the track commander's turret.

The track commanders (TCs) are normally the squad leaders or, in the case of the headquarters vehicle, the platoon leader. When the platoon fully deploys and uses both mounted and dismounted elements, the squad leaders go with their dismounted elements, while the M113s usually follow and support their respective squads. The platoon leader normally also dismounts and may or may not take the platoon sergeant and a radiotelephone operator (RTO) with him.

In this case, several things are likely to happen. First, the Dragons and caliber .50 machineguns — the most potent weapons in the platoons — will either be left unmanned, or they will be manned by whoever is available. Second, the squad leaders will have no radio communication with their respective vehicles. Thus, only rarely will any of the APCs be well positioned (far enough away from the target and with good fields of fire) to support the dismounted soldiers with either their caliber .50 machineguns or their Dragons.

In fact, the platoon's four M113s either tend to be left out of the action or used at improper ranges. Even if the platoon sergeant is left in charge of the four vehicles, he has only an ad hoc organization to assist him — one that has had little or no training as an integral maneuver unit in its own right.

Another problem with this organization is that the individual squad leader is saddled daily with a difficult training and maintenance requirement. On one hand, he has a dismounted rifle squad to train. On the other hand, he not only has an M113 to maintain, but, at a bare minimum, a driver and an alternate to train on the vehicle, the caliber .50 machinegun, and the Dragon. That's a tall order for any first-line supervisor.

If a squad leader and his driver are in the motor pool and the rest of the squad is not, the squad does not get the leadership it requires. If that squad leader is off somewhere training the squad, his track driver, and maybe one assistant, are left unsupervised. But if the squad leader takes all of his men to the motor pool, the squad is not properly utilized — there are too many people for the job at hand. Even if one NCO per platoon is temporarily put in charge of all four drivers in the platoon, the drivers are not "his" men and the M113s are not his tracks, and that will tell after a while. Almost always, the drivers will get little supervision, poor training, and too little tangible assistance with their maintenance tasks.

With all these problems in mind, the 1st Battalion, 6th Infantry, 1st Armored Division, in Germany, came up with a modification of its rifle platoons last year. Specifically, all four of each platoon's APCs (and their crews) were grouped into a single "heavy" squad. Under this organization, the responsibility for vehicle maintenance and crew training was given to the squad leader of the "heavy" squad, which freed the squad leaders of the two "light" squads to concentrate on training their dismounted riflemen, grenadiers, M60 machinegunners, and designated Dragon gunners.

The squad leader of the "heavy" squad also became responsible for maintaining the four assigned M113s and their caliber .50 machineguns, Dragons, and radios, and for training four TCs, four drivers, and one platoon RTO/communications specialist as drivers, RTOs, caliber .50 machinegunners, and Dragon gunners. Most important, the heavy squad was designed to fight as a unit consisting of two sections of two tracks each. The heavy squad, and each section of that squad, was expected to be proficient at mounted movement techniques, overwatch and fire support techniques, and mounted land navigation.

REORGANIZED PLATOON

HEAVY SQUAD	PERSONNEL	EQUIPMENT
(1 ea)	Sqd Ldr (SSG) Section Ldr (SGT) 2 TCs (SGT/CPL) 4 Drivers (CPL/PFC) 1 RTO (CPL/PFC)	4 M113 APCs w/cal .50 MGs and Dragons
LIGHT SQUAD	**PERSONNEL**	**EQUIPMENT**
(2 ea)	Sqd Ldr (SSG/SGT) Asst Sqd Ldr (SGT/CPL) M60 MG (CPL/PFC) M60 MG (PFC/PVT) Grenadier (PFC/PVT) Grenadier (PFC/PVT) Rifleman (PFC/PVT) Rifleman (PFC/PVT)	2 M60 MGs 2 M203 4 M16*

*One rifleman would be designated a Dragon gunner if a Dragon was dismounted to accompany the light squad.

In effect, then, the squad leaders of the two light squads do not command APCs. They and their squads are only passengers. If the platoon leader finds it absolutely necessary, he and he alone can "bump" one of the TCs to better control the platoon when it is mounted. But because he will almost always dismount and accompany the light squads when they dismount, he and his RTO will usually ride in the passenger compartment of what was previously the platoon headquarters track (the one with the two radios). This allows the platoon leader to stay in communication with his commander and with the heavy squad leader on separate nets.

The platoon RTO, who accompanies the platoon leader, is equipped with a PRC-77. When the platoon leader dismounts, he uses the PRC-77 to stay in communication with his heavy squad leader, the forward observer (FO), and his platoon sergeant. The platoon sergeant moves to what was the platoon leader's track to act as the communications link between his platoon leader on the ground and the company commander.

Thus, once the battle is joined, the two light squads are immediately available for commitment as the traditional dismounted assault force. There is no fumbling around as squad leaders get unraveled from TC hatches, no question about who mans the caliber .50 machineguns and the Dragons, and no uncertainty over how command and control functions will be performed. The leader of the heavy squad responds to the orders of the platoon leader and moves his two sections into the best possible positions from which to fire the machineguns and the Dragons. He may even have to dismount the caliber .50s and the Dragons to insure the survivability of the APCs. No matter what technique is used, though, the base of fire from the heavy weapons that can be provided through maneuver is a major advantage of the new organization.

Needless to say, the keys to a successful heavy squad system are strong leadership and unit integrity. For this reason, the members of the heavy squad should be highly experienced, with the very best staff sergeant as its leader. Membership in the heavy squad should be seen as a logical career progression for the best performers — that is, as the road to promotion. Membership should also result in such other immediate and tangible rewards as being excused

from petty details. Moreover, if the heavy squad needs assistance — in removing or replacing track pads, for example — the light squads can and should be tasked to help out.

Finally, it is absolutely essential that the platoon leader plan for and control the employment of all three squads. The tactics of the two dismounted squads are not affected much by this TOE modification, except that an APC will not normally follow each dismounted squad to provide close support. In his orders the platoon leader can, of course, place a vehicle and its crew, or a whole heavy section, under the operational control of the leader of a light squad. But this would happen only where difficult terrain made other employment options less desirable. That is, the tactics of the heavy squad should fit its enhanced mass, mobility, and firepower characteristics, all of which are important. The heavy squad should always be employed where its Dragons and caliber .50 machineguns will do the most good, and the employment of these weapons normally require some stand-off distance and a stable platform. More important, the weapons effects are the greatest if the heavy squad's fires are massed in one designated sector or avenue of approach.

The ability of the heavy squad to relocate rapidly, both laterally and in depth, should be constantly stressed in all training, planned for in advance, and exploited whenever the situation presents itself.

For the 1st Battalion, 6th Infantry, this heavy squad-light squad division of labor has proved itself over and over again. The battalion has enjoyed unparalleled success during numerous field training exercises. In every exercise, it was the speed and fluidity of the battalion's maneuver that controllers and evaluators singled out as the key to success. The same comments were noted during unit ARTEPs.

In both field and garrison the heavy squad-light squad organization improved efficiency, gave superior results, and recognized skill progression opportunities. Members of light squads who aspired to heavy squad rank or status had to be "promoted" into the heavy squads. Thereafter, newcomers, for the most part, manned the light squads. The pros and cons of this approach are fairly obvious. But, on balance, it has worked very well.

ANSWER

One might ask, however, whether all this reorganization was really worth the trouble. After all, the current mechanized infantry organization has been around for years, is generally accepted and understood, and is perceived to work. The answer to this question, in a round-about way, is this:

Imagine for a moment that each mechanized infantry platoon under the current organization was equipped with four Bradley infantry fighting vehicles (IFVs) instead of M113s. How many squad leaders (sergeants or staff sergeants) could do all of the following tasks simultaneously?

- Supervise the maintenance of an IFV with its stabilized turret, chain gun, and TOW missile systems.
- Train an IFV crew to "tank crew proficiency."
- Train a six-to-eight-man dismounted infantry squad to full proficiency, while also accounting for and maintaining all the squad equipment.
- Employ the IFV and the dismounted element in battle as a coordinated unit, despite the physical separation often required to make the most of the characteristics of each.

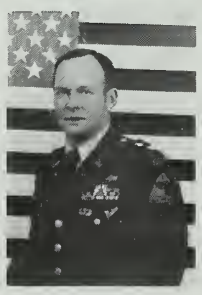
Such a squad leader would have to be capable of replacing both an M60 tank commander and a straight infantry squad leader. He would also be required to perform as a combined arms platoon leader on a small scale. In sum, his daily tasks would be virtually impossible.

And while the daily tasks assigned to the squad leader of the current M113-equipped squad are obviously different in degree, they are not different in kind. Today's squad leader gets by as best he can, usually by concentrating on maintaining his M113 in garrison and by fighting his dismounted soldiers as best he can when required to do so in the field. His squad plays "follow the leader" as its primary mounted maneuver technique and promptly forgets about its M113 as soon as it dismounts. Field maintenance occurs only when specifically directed, during obvious lulls in the field exercise, or when the vehicle is no longer in fighting condition.

Like his squad leaders, the platoon leader often views the APC as transportation, a source of heat in the winter, and his biggest and most mysterious challenge during garrison maintenance periods. When in the field, he perceives his platoon as either mounted or dismounted, never both; and he generally assumes (without much thought) that his platoon sergeant knows what to do with the squad's APCs when he, the platoon leader, is off leading a dismounted operation.

Even when his unit is in a defensive position, he either dismounts his caliber .50s (usually a good idea) or turns his APCs into pill boxes. It never occurs to him that the four APCs could give the platoon a rapid maneuver capability, especially if employed in mass. And if it does occur to him, he does not have a ready organization with which to execute such a maneuver.

So the question remains: Does the current organization — even with M113s instead of IFVs — really work? A light squad-heavy squad reorganization is at least an alternative and one whose value has been proved.



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FDC Techniques

LIEUTENANT STEPHEN P. PERKINS

For a long time the Infantry has needed a better way to obtain firing data for its 60mm and 81mm mortar FDC computers. Field Artillery units and 4.2-inch mortar sections have used the graphic firing fan (GFF) for many years, and the Infantry also needs the benefits of this technique. These benefits are, clearly, to save time and, by saving time, also lives.

Over the past several years, members of the 82d Airborne Division have adapted the GFF and developed it into what they call the graphic firing table (GFT), a portion of which is shown here. The figures and techniques used in adapting the GFF into the GFT came from accepted doctrine and used minimum charge and elevation.

Initially, 300 copies of the GFT were printed and distributed to mortar units in the division for testing. After experimenting with the GFT, they found that by attaching the GFT to the organic M16 plotting board's range arm, they could make the firing table's information — elevation, time of flight, and maximum ordinate — immediately available to the computers to help them do their jobs better and faster.

The old system called for the charge to be determined, the elevation to be used, and the time of flight and maximum ordinate to be checked for observer knowledge and safety purposes. And all of this had to be checked with the plotting board and the firing table, which often had to be used simultaneously.

With an experimental model of the GFT, the mortar platoons found they were saving as many as fifteen seconds on every plot. Later, when a printed model of the GFT had been produced, each 81mm mortar platoon in one brigade tested the GFT during a brigade mortar competition/ARTEP in the field.

The brigade's fire direction centers had been criticized in previous years for their lack of speed, but during that competition the GFT enabled most platoons to meet all the time requirements. The GFT had actually saved from five to twenty seconds per plot. When the competition ended, it was found that the top three platoons had used the GFT, although a few of the units had used the mortar fire control calculator. The units that had used the GFT had seen the electronic calculator in action and agreed that it was good, but they thought the plotting board with the GFT was even faster. Members of these units almost unanimously agreed that the GFT had made the difference for them, especially on the coordinated illumination mission.

	RG	ELEV	CHG	TF	MAX ORD
	4595	0800	9	33.3	1353
46	4575	0825	9	34.0	1416
	4550	0847	9	34.7	1471
	4525	0865	9	35.2	1514
45	4500	0880	9	35.6	1551
	4475	0893	9	36.0	1584
	4450	0906	9	36.3	1614
	4425	0917	9	36.6	1641
44	4400	0928	9	36.9	1666
	4375	0937	9	37.2	1690
	4350	0947	9	37.4	1712
	4325	0956	9	37.7	1733
43	4300	0964	9	37.9	1753
	4275	0973	9	38.1	1773
	4250	0981	9	38.3	1791
	4225	0988	9	38.5	1809
42	4200	0996	9	38.7	1826
	4175	1003	9	38.9	1843
	4150	1010	9	39.0	1859
	4125	1017	9	39.2	1874
41	4100	1023	9	39.3	1889
	4075	1030	9	39.5	1904
	4050	0919	8	35.0	1492
	4025	0930	8	35.2	1517
40	4000	0941	8	35.5	1540
	3975	0951	8	35.8	1562
	3950	0960	8	36.0	1582
	3925	0970	8	36.2	1602
39	3900	0978	8	36.4	1620
	3875	0987	8	36.6	1638
	3850	0995	8	36.8	1655
	3825	1003	8	37.0	1671
38	3800	1010	8	37.2	1687
	3775	1018	8	37.4	1702
	3750	1025	8	37.5	1717
	3725	1032	8	37.7	1731
37	3700	1039	8	37.8	1745
	3675	0911	7	32.9	1318
	3650	0924	7	33.2	1344
	3625	0936	7	33.5	1367
36	3600	0945	7	33.7	1389
	3575	0958	7	34.0	1410
	3550	0968	7	34.2	1430
	3525	0978	7	34.4	1448
35	3500	0987	7	34.7	1466
	3475	0996	7	34.9	1482
	3450	1005	7	35.0	1498
	3425	1013	7	35.2	1514
34	3400	1021	7	35.4	1529
	3375	1029	7	35.6	1543
	3350	1037	7	35.7	1557
	3325	1044	7	35.9	1570
33	3300	1052	7	36.0	1583
	3275	1059	7	36.2	1596
	3250	0919	6	30.6	1169
	3225	0933	6	31.0	1193
32	3200	0946	6	31.3	1216
	3175	0958	6	31.6	1236
	3150	0969	6	31.8	1256
	3125	0980	6	32.1	1274
31	3100	0991	6	32.3	1219
	3075	1001	6	32.5	1307
	3050	1010	6	32.7	1323
	3025	1019	6	33.1	1338
30	3000	1028	6	33.3	1352
	2975	1037	6	33.5	1366
	2950	1045	6	33.6	1379
	2925	1053	6	33.8	1392
29	2900	1061	6	33.9	1404

A device such as the GFT should be mass produced and distributed throughout the Army, together with a description of adapting the GFF for use with the table. The GFT will not, and probably should not, replace the mortar fire control calculator, but it has proved its worth in an ARTEP situation, which is second only to combat in realism. By conservative estimates, this device could save 58.5 manhours per day per company, not to mention the number of lives it might save in actual combat.

By adapting the graphic firing fan used by the Field Artillery and heavy mortars to Infantry use — the graphic firing table plus our knowledge of mortars — our Infantry mortar units can be brought to much higher standards.

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BRIGADIER RICHARD E. SIMPKIN,
British Army (Retired)

WHEN THE SQUAD DISMOUNTS

Armored personnel carriers (APCs) such as the M113A1s are just what their name implies: They provide the infantrymen with protected mobility, and their firepower is purely defensive, limited, and highly localized in its effect. Once the infantrymen dismount, the name of the game is simply to preserve the vehicle until it picks them up again.

By contrast, an infantry fighting vehicle (IFV) not only improves the combat worth of the squad it carries, it is a multipurpose combat system in its own right. In armies such as that of the United States, which recently introduced its M2 Bradley IFV, and in other armies that plan to introduce the IFV, there is understandable controversy over the handling of the vehicle when its squad is dismounted.

In considering this problem we need to examine principles and priorities without getting too bogged down in minor tactics and vehicle characteristics. And we need to take a look at those armies — Soviet and West German — that pioneered the IFV concept and have had a decade or more of experience with it. We should bear in mind that these armies are "apostles of mobility," which simply means that their operational and tactical doctrine is based on the theory of the movement of masses.

It is this theory, in fact, that gave rise to the requirement for an IFV as opposed to an APC. It is not surprising, therefore, that other armies whose doctrine is based more on seizing and holding ground, establishing a fire base, and modifying relative strengths by attrition have been slow to adopt an IFV and may be none too sure what to do with one.

What *do* we do with an IFV? In answering that question we need to look first at the roles and the fire missions of an IFV.

IFV ROLES

The roles of an IFV are, essentially, four:

- Providing protected mobility for the infantryman.
- Conducting independent offensive action, employing both vehicle-mounted weapons and squad weapons firing through ports.
- Cooperating closely with tanks, again employing both vehicle-mounted and squad weapons, and maintaining mobility by sharing fire tasks and giving mutual support.
- Acting as a combat vehicle when its squad is dismounted.

As long as its squad remains mounted, the vehicle and all its personnel constitute an integrated, complex weapon system, and no real conflict of priorities arises. Admittedly, the fact that an IFV contains valuable infantrymen — a commodity that is apt to be scarce on the mechanized battlefield — does impose a measure of conservatism on the way it is handled, but no more so than its limited frontal armor protection. IFVs can become surrogate tanks when no main battle tanks (MBTs) are present, but it is suicidal to handle them as boldly as tanks within the main maneuver force.

Once it has shed its infantry, though, an IFV becomes subject to an awkward three-way stretch, which, like so many intractable problems, can be well represented by the model known as the "marketing triangle" (Figure 1). The three calls on the vehicle are these:

- Conservation (CON) — ensuring that the IFV is available to pick its squad up again.
- Support (SPT) — directly supporting its dismounted squad.
- Independent (IND) — firing and maneuvering as an armored vehicle weapon platform.

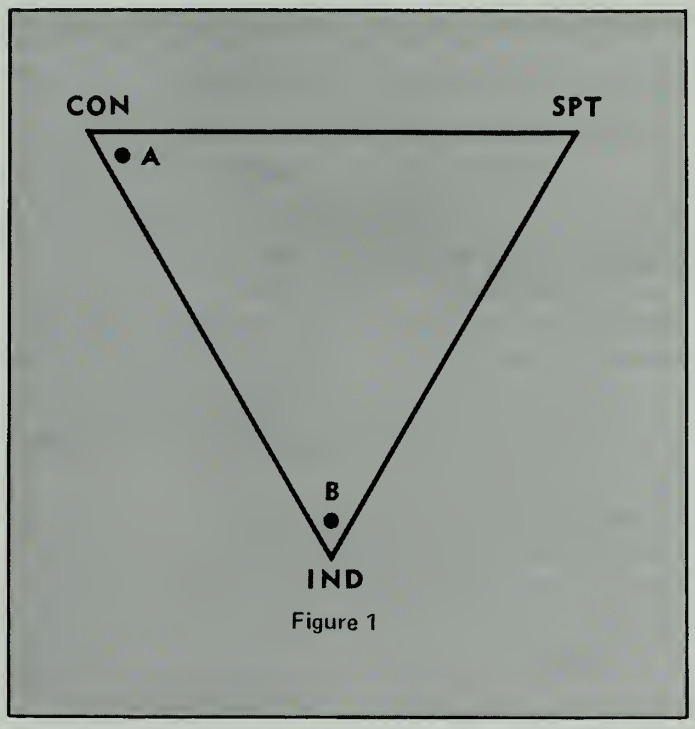


Figure 1

In the marketing triangle model, each angle represents a 100 percent priority for the named feature, and the side facing it represents 0 percent. Thus, point A represents handling the IFV like an APC, point B, divorcing it completely from its infantrymen once it has shed them. Just pause a moment and consider where your priorities would lie — where you would stick your pin into the triangle — for this is the nub of the whole problem.

IFV FIRE MISSIONS

For this reason, we must probe a little deeper into the firepower roles of the IFV's vehicle-mounted weapon systems. All three leading contenders — the Marder, the BMP 1 and its variant the BMP 2, and the M2 Bradley — mount a cannon-type weapon of 20mm to 25mm caliber and a coaxial machinegun. The Soviet vehicle has powered traverse; the Marder mounting is powered in both planes but not (so far) stabilized; the Bradley's mounting is stabilized, which is probably a key advance.

The Soviets appear to have retained an antitank guided missile system (ATGMS) — the 73mm gun-launcher plus a SAGGER mounting — on the platoon commander's vehicle only. The Germans are fitting one, the MILAN, to about half of its vehicles at the cost of one man per vehicle. And the Bradley has a TOW installation designed into it.

There are, then, six identifiable types of fire missions for these vehicles:

- Antitank (ATGMS).
- Anti-IFV.
- Air defense, mainly antihelicopter.
- Suppressive fires.
- Destructive fires against soft and area targets.
- Target indication and route markings.

All three of these armies — Soviet, West German, and U.S. — have dedicated tank destroyers armed with missiles (TDMs) in the shape of the BRDM 2 and 3, the Jaguar 1 and 2, and the ITV. Still, the Germans mounted an ATGMS on their squad IFV just as the Soviets were removing it from theirs, while the U.S. Army insisted on one from the start. All of them, though, seem to generally accept the IFV's antitank role as an emergency one or, at the most, as a stopgap mission. The known problems of handling the M60A2 armed with the Shillelagh, and British studies of mounting the Swingfire ATGMS on the Centurion tank in the 1960s, are highly relevant here. In sum, the ATGMS tends to drag the tank or the IFV back from where it ought to be into overwatching positions.

The anti-IFV role as a planned fire mission within the main maneuver force is also questionable, although no less a person than General Dr. Ferdinand von Senger und Etterlin, Commander of Allied Forces Central Europe, has made a categorical statement about "like fighting like." Even with the elementary APCs of World War II, many German armored commanders on the Eastern Front reckoned they would rather lose a tank than a laden APC. Outside the optimum tank versus tank range band, killing a laden IFV just has to be a prime mission for the tank gun. By contrast, the IFV can and must relieve the tank of this task during the climax of a tank versus tank firefight.

The Soviets seem entirely justified in leaving defense against the fixed and rotary wing threat to their combination of ZSU23/4 and GASKIN (or its successor), and to the PZRKs *(perenosnyi zenitnyi raketnyi kompleks,* portable air defense missile complex) in "the parts which other systems cannot reach." By contrast, for the NATO forces, which are faced with a massive and mounting rotary wing threat and still lack a comprehensive tactical air defense network, the antihelicopter role seems to be the key one for the IFV's cannon. In fact, it is the primary justification for introducing a cannon-type weapon on a powered mounting into the complex of direct fire weapon systems.

General support is very likely the other justification for this expensive step. As the struggle for antitank firepower has pushed tank gun calibers beyond the 90mm to 105mm bracket, the tank has become a tank destroyer in tank's clothing. Modern main battle tanks (MBTs) are quite simply ill-adapted to giving the kind of general support fires that were the tank's dominant fire mission in the latter weeks of World War II. They carry too little ammunition; their rate of fire is too low; and their shell bursts are uneconomical in that they produce gross overkill within a very limited radius. Linked to a natural liking for rockets and mortars, this factor may well have been the reason the Soviet Army put the 73mm gun launcher on its 1967 BMP 1.

Regardless, the cannon-type weapon on the IFV is well suited to a general support role for both suppressive and destructive fires. In the antihelicopter and general support roles it is the ideal complement to the tank gun of 120mm to 130mm caliber. And the Bradley has a great advantage over its rivals in being able to apply both antihelicopter and prophylactic fires while on the move.

Finally, under this head is a fire mission of which, in these days of superb radio communication and of navigational aids, some younger readers may be unaware. This is target indication and route markings (the latter by night), a role admirably filled during World War II by the 40mm L70 light antiaircraft gun (the Bofors gun). If today's electronic warfare (EW) threat gets one jump ahead of electronic counter-countermeasures (ECCM), a maneuver force may be left without radio communication. The cannon is an excellent and economical weapon for target indication, for it has a longer and more accurate range than the machinegun, and its trace is visible over a much wider arc.

This discussion of firepower, which straddles all types of combat, poses the first question that an IFV user faces: Does he own a poor man's tank gun, or a weapon system that fits uniquely and vitally into the direct fire mosiac? How he employs the unladen IFV in a given type of combat will largely depend on his answer to this question. And his answer probably will depend on the doctrine of the army to which he belongs — Soviet, German, or U.S.

SOVIET TEACHING

We do not yet know how much the change of armament on the BMP to a cannon has modified Soviet practice. We need first to recall the dominance of the offensive in Soviet doctrine, which is now represented by the use of the BMP with the squad mounted for independent offensive action in reconnaissances by force, raids, and mechanized (all-arms) vanguards. This approach is perhaps best seen in the Soviet's standard enveloping attack by a point company combat team, which allows at least one fire squad to make full use of its weapons without dismounting. (The term "enveloping" is used here in its American sense, which differs from both British and Russian usage.)

The fact is, whether in the offense or the defense, the Soviets do not like to dismount their infantrymen. Addi-

tionally, the shortcomings of the armor on the BMP 1 and BMP 2 have led Soviet commanders to use increased caution in their handling of the BMP within the direct fire zone. This is doubly true when it is unladen; in this case, there is a readily perceptible shift toward the

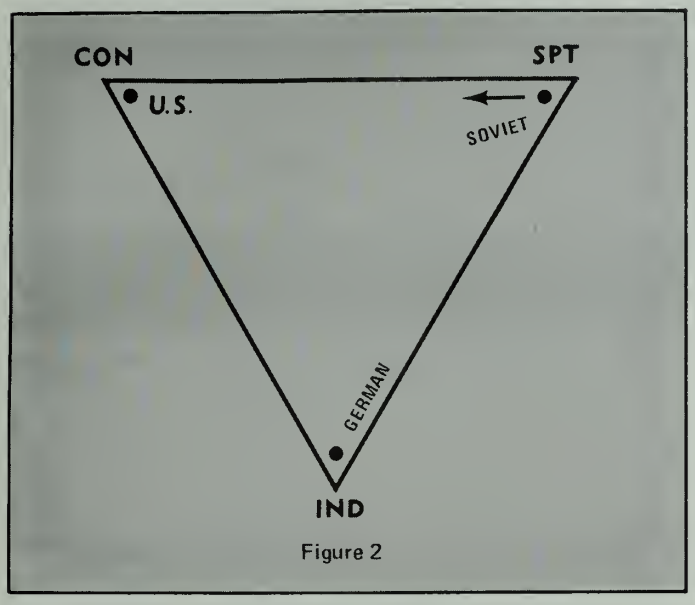


Figure 2

"conservation" point on our marketing triangle (Figure 2).

Nonetheless, there is also considerable evidence (too much to include here) that the Soviet emphasis in employing the unladen BMP, both in a deliberate tank-infantry attack and in a defensive situation, lies squarely on giving direct support to its infantrymen. This is extended to, but not much modified by, the task of supporting tanks by engaging any enemy antitank weapon system that lies within the BMP's fields of view and fire.

BUNDESWEHR TEACHING

West German doctrine (as reflected in a *Bundeswehr* pamphlet and briefing presented at the Royal Armoured Corps Center and the British School of Infantry) appears complex and somewhat confusing — and not without reason.

The Marder was conceived, developed, and introduced under the sponsorship of policymakers who had been bred in the *Wehrmacht* tradition and who were experienced in both offensive and defensive operations on the Eastern Front — in a word, by true "apostles of mobility."

Then came the 1973 German Army regulation with its emphasis on forward positional defense. Despite this, the value of maintaining the tank's mobility — of getting armor forward — in close and urban terrain still ranks high in German thinking. Here the tank, the IFV with its mounted weapons, and the infantry squad, whether mounted or dismounted, work intimately together as a small team.

By contrast, a forward positional defense, with everything in the shop window at battalion level, evidently dictates the reinforcement of the maneuver element by unladen IFVs. Under this concept, the tanks and IFVs conduct a retrograde maneuver battle, falling back onto and through the dismounted elements. Then, if ground has to be given, the IFVs pick up their squads and fall back to a new line of dismounted action, covered on their way out by the tanks.

When one adds to this picture the possibility of the organized deployment of IFVs in the antihelicopter role, there is not much doubt of the basic German view. In defensive operations, at least, the Germans place little emphasis on the direct support of dismounted infantry, while the independent maneuver of unladen IFVs overrides any tendency toward conservation.

THE TACTICAL DECISION

An army converting from APCs to IFVs naturally and logically starts in the "conservation" corner of the triangle — the U.S., for example. The direction it moves in depends on whether its thinking is dominated by the offense or by the defense. In offensive forward movements at all levels, both in the attack itself and within the framework of an aggressive defense, *armored* infantry maintains the mobility of the tanks; the IFV supports both the tank and its squad and maintains the mobility of both.

In the *mechanized* combat team, which is supported today by MBTs but may be supported in the future by light mobile protected guns (LMPGs), it is the IFV's mobility itself that must be maintained. The infantry squad contributes to this either by firing its weapons through its weapon ports or by dismounting and clearing forward, with the LMPG giving fire support. All this activity lies near the line joining the "conservation" and "support" corners of the triangle, as in the Soviet case.

In a positional defense, or in the indispensable static element of an aggressive defense, a commander has a choice. He may deploy his unladen IFVs within the pivot (the anvil) to provide or thicken the fire base. Or he may use them to strengthen his maneuver element (the hammer). In either event he will use their firepower and mobility at a tactical level higher than the squad they carry, but not directly related to it. And when the chips are down, the conservation of the unladen IFVs to ensure the future mobility of their infantry is less important here. So the commander in this situation joins the *Bundeswehr* on the lower half of the "independent support" side of the triangle.

There does not seem to be any right or easy answer to this problem in general terms. The handling of his unladen IFVs is a tactical decision a mechanized combat team commander is going to have to make. Moreover, the problem seems to stem from the role assigned to mechanized (infantry heavy) combat teams and the way they fight. For many reasons, the armored (tank heavy) combat team does not suffer from the pull to separate the IFV from its squad.

Given the duration of the development cycle for a vehi-

cle and the time it takes to implement changes in force structure, one would be idle not to take a glance into the crystal ball.

Having pioneered the IFV concept both generally and within NATO, the Germans are now having second thoughts about it. In the 1983 edition of *Tanks of the World,* General von Senger writes: "Nevertheless the linked requirements ... [have] led to jack-of-all-trades designs. For this reason the trend may well swing back towards two separate types of vehicle — the fire support (or 'escort') vehicle to relieve the MBT, and an armoured personnel carrier (APC) whose operational characteristics have yet to be defined."

From a searching scan of both sides of the hill, it appears that three types of vehicles would be required within this context — an IFV, an APC, and an FSV (fire support vehicle). These three vehicles with three more added — the MBT, the LMPG, and the TDM — would form the core of the armored vehicle inventory. (Although Fort Knox's earlier recommendation for a unified combat arm in the 1986 force structure was overridden, this kind of organization will surely come in the end. There will then be no need to get involved in the respective responsibilities and equipment of infantry and armor.)

A combat arm with these six principal types of vehicles would be immensely versatile without the need to reequip or reorganize. It could, in fact, form the three types of mechanized task force, formation, or combat team that the U.S. Army feels will be needed eventually:

- Light: IFV plus LMPG plus TDM plus FSV (air defense or screen only); useful for rapid intervention, extreme terrain, medium intensity or small-scale operations.
- Armored: MBT plus IFV plus TDM plus FSV (air defense or screen only).
- Mechanized: APC plus FSV plus MBT plus TDM.

This is, incidentally, the position the Soviet Army will reach — with its mix of BMPs and the BTR 60/70 family and with the ZSU 23/4 (or its successor) and the PZRK — once it is able to replace the MBT with an LMPG in its light task forces based on the motor rifle arm (advance guards, raid forces, and the like). As a guess, the Soviets must have an LMPG mounting the 100mm or 115mm tank gun on the BMP hull very near to introduction.

The point is that the IFV fills the needs of a light force in which the limitations of the LMPG make the IFV the dominant vehicle, as well as those armored infantry forces that operate in support of tanks. Here the FSV has only a limited role, albeit an important one.

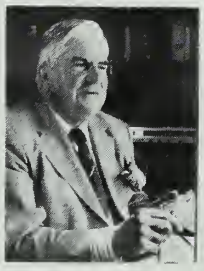
By contrast, for mechanized infantry units supported by tanks, the combination of APC and FSV is likely to prove more effective and more economical in the long haul. It collapses the marketing triangle but leaves a commander free to move along the "direct support" — "independent maneuver" axis. A two-way stretch is almost always manageable whether it is political, strategic, tactical, or whatever, but a three-way stretch generally proves to be intractable.

CONCLUSION

The IFV concept matches the mobile, tank-dominated concept of operations that gave rise to it. It is less suitable for positional defense, or for forming the framework and the pivot positions of an aggressive defense. Here the handling of unladen IFVs offers the tactical commander an awkward choice: He must decide how far to exploit the IFV's firepower, accepting the concomitant risk, and how far to uphold the protected mobility of his infantry.

There is no general solution to this problem. To reach a sound decision, a commander on the spot first has to evaluate the priority of the IFV's firepower roles in the given situation. Then, based on this, he has to make a "marketing triangle" assessment of the relative importance of giving direct support to the dismounted squad, of conducting independent maneuver, and of conserving his vehicles. This means that IFV-mounted battalions need to be trained in all three types of handling and that SOPs need to cover each. (Linked to this "trilemma" is the need to counter the fast-growing rotary wing threat.)

Although the IFV has an assured place in armored (tank-dominated) and light forces, the best solution for mechanized (infantry-dominated) forces, after all, may well prove to be a combination of APC (with only local defensive armament) and FSV. In any event, the FSV does have a place in the light and armored forces for screening and for the air defense (antihelicopter) role.



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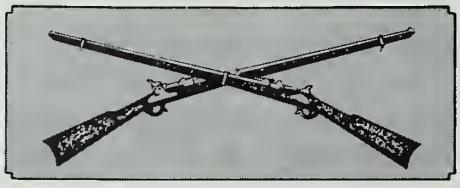

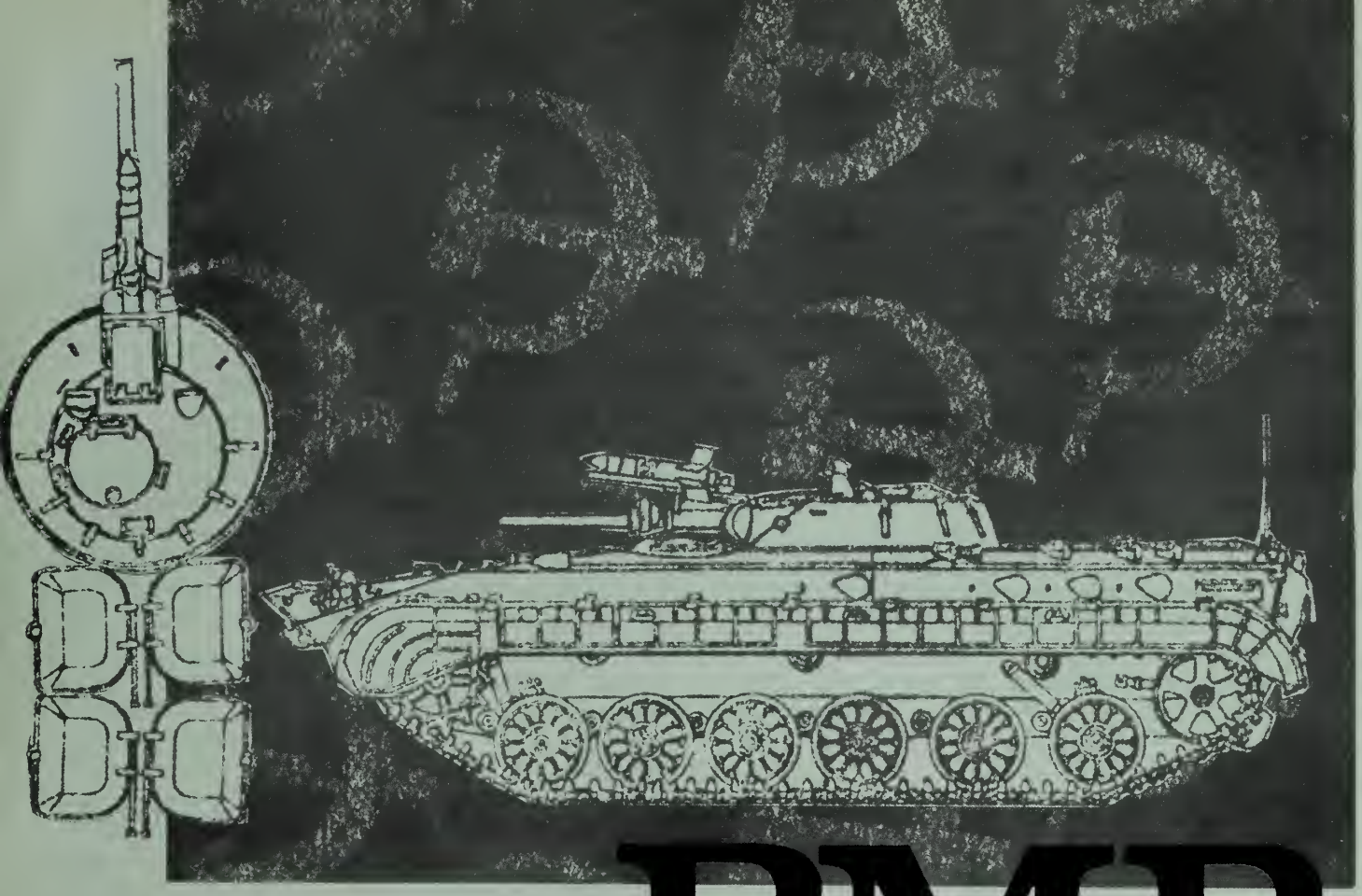

Evolution of the BMP

CAPTAIN DAVID F. McDERMOTT
CAPTAIN SCOTT R. GOURLEY

When the first BMP arrived on the scene in 1967, it was characterized in the West as "an entirely new type of light armored vehicle combining the features of a light tank, antitank guided missile carrier, and armored personnel carrier." In short, it represented something of a technological revolution in combined arms doctrine. Before that time, Soviet infantry had the option of accompanying tanks either in armored personnel carriers, essentially battle taxis, or else mounted on the tanks themselves. To support the tanks, the infantrymen would have to dismount from their APCs, thereby exposing themselves to small arms and indirect fire. In such cases, the tanks, to maintain the pace of the offensive, would either outrun their infantry — with disastrous results — or slow their pace and lose their offensive momentum. With the BMP, the world's first true infantry fighting vehicle, the Soviet infantrymen could now fight on the move while accompanying the tanks.

Obviously, U.S. infantry leaders must understand the maneuverability that the BMP has given to Soviet combined arms formations. But they need to understand, too, the design evolution of the BMP during the past 16 years, specifically in terms of the vehicle's organic armament, its crew and passenger protection (ballistic, chemical, and nuclear), and its automotive performance.

The BMP (*Boevaya Mashina Pekhota*) infantry fighting vehicle was developed during the 1960s apparently as a replacement for the BTR-50P series of tracked vehicles, the most common of which was the armor-topped BTR-50PK. When the BMP was first seen publicly during the November 1967 military parade in Moscow, Western observers initially referred to it as the M-1967 and the BMP-76PB (because they thought it mounted a 76mm main gun). It eventually came to be known as the BMP-1.

A later model, referred to as the BMP-2 (or BMP-A), which featured a number of design changes, was fielded in 1970. The most important changes — a lengthened bow combined with an enlarged bow deflector plate and extended rear deflectors on the tracks — increased the BMP's amphibious characteristics. Other design changes included an additional rocker arm behind the first road wheel, the removal of an exterior tool box on the rear running board, and modified firing ports for the PKM squad machinegun — they were now square rather than circular as on the BMP-1.

(Because both of these versions of the BMP are opera-

tionally comparable, and unless otherwise noted, the designation BMP in this article will encompass both the BMP-1 and BMP-2.)

One of the major difficulties in tracing the evolution of the BMP is the amount of apparently contradictory reference information available. For example, Viktor Suvorov, the pen name adopted by a high-ranking Soviet military defector, tries to explain these contradictions in his newest book, *Inside the Soviet Army*. According to Suvorov, the Soviets now produce two versions of their weapon systems like the BMP, the normal version and an extremely simplified version, which the Soviets contemptuously refer to as a "Monkey-Model." Although it is designed for wartime production only, the simplified variant is turned out in large quantities and exported to countries friendly to the Soviet Union. Suvorov claims that the BMP models Western analysts have obtained for examination have been the "Monkey-Models." He also states that he has seen both models and that there are 63 simplifications in the second version. Regardless of Suvorov's claims, there are some obvious physical changes that can be observed and traced through the BMP's evolution.

WEAPONS

One of the most intriguing and controversial aspects of the BMP is its organic weapon system, which is incorporated into a one-man turret. This system consists of a 73mm main gun, a SAGGER antitank guided missile (ATGM), and a coaxially-mounted 7.62mm machinegun.

The main gun on the BMP — a 73mm smoothbore model 2A28 low-pressure, short-recoil gun — has a maximum effective range of 800 meters. Although some sources indicate that the gun has an automatic loader, others say the gun has an "autoload" capability that permits the gunner to load rounds semiautomatically. Suvorov attributes this disparity to the simplified variants. He states that, in the Soviet version, the gunner presses buttons and the required rounds slide into the barrel automatically.

At least one early report stated that the 73mm projectile was "thought to be similar to the RPG-7 projectile." Further analysis, though, has confirmed that the main gun fires a fixed, fin-stabilized, rocket-assisted HEAT (or HE-FRAG) round that is similar in design and performance to the one the SPG-9 73mm recoilless rifle fires.

The HEAT round, 40 of which are carried in the BMP, can penetrate up to 335mm of rolled homogeneous armor (RHA), but it has a limited first-round hit probability at ranges in excess of 800 meters. Additionally, the effectiveness of the main gun is handicapped by its limited elevation and traverse capabilities. It can be depressed only four degrees below the horizontal plane, which makes it less able to engage targets while the vehicle is in hull defilade. And it can be elevated only 35 degrees, which prevents the BMP from engaging targets with its main gun at extreme elevations.

BMP

Despite the fact that the turret can be traversed 360 degrees, the main gun is automatically elevated to clear the commander's infrared searchlight, which is mounted on the left front side of the vehicle. This always creates a dead space in which the gunner cannot aim his weapon in the direction of the commander's best field of vision. The coaxially-mounted 7.62mm PKT machinegun, at the right of the main gun, suffers from the same limitations.

From the available evidence, many users of the early BMPs and the vehicles patterned after it both inside and outside the Soviet Union had mixed reactions to using a low-velocity, medium-caliber gun, with a limited antiarmor capability, mounted on an infantry fighting vehicle. Too, the main gun was not stable enough to fire on the move. And the fact that it could carry only 40 rounds of 73mm ammunition suggested there might be certain logistical implications during large-scale, sustained combat operations. Because of these difficulties, other weapons were evaluated as possible replacements.

The Yugoslavians fielded a domestically designed IFV, the M-980, in May 1975. The M-980, although it closely resembled the BMP, mounted a 20mm automatic cannon rather than a 73mm main gun. As early as 1978, there were reports of tests being conducted in both the USSR and Poland to replace the 73mm gun with a heavy (14.5mm-23mm) machinegun. But it was not certain at the time whether such versions had been operationally deployed.

Following the Soviet invasion of Afghanistan in 1979, Soviet forces soon realized that the 73mm gun on the BMP could not be elevated enough to engage Afghan guerrillas sited on mountain crests. Speculation then appeared in open sources regarding photographs of BMPs in Afghanistan mounting what appeared to be AGS-17 30mm automatic grenade launchers in place of the 73mm gun.

ATGM

Another major component of the BMP's organic weapon system is the AT-3 SAGGER antitank guided missile (ATGM), four of which are carried on each BMP. The SAGGER, with a HEAT warhead capable of penetrating more than 400mm of armor, is used to engage individual armored targets at ranges between 500 and 3,000 meters. Because of its relatively slow time of flight (it

needs 27 seconds to travel 3,000 meters) and because it is a first-generation ATGM that requires the gunner to track his target and fly the missile at the same time, the SAGGER imposes definite tactical limitations on the use of the vehicle. The SAGGER can be fired effectively only while the BMP is stationary, and this exposes the vehicle to an enemy's fire for a considerable length of time. Besides, the other turret weapons cannot be used when the SAGGER is being reloaded, which can take as long as 50 seconds.

At the beginning of 1978, it was reported that the Soviets had upgraded the SAGGERS in their BMPs and that they were now comparable to the U.S. Dragon and TOW ATGMs. A more recent source has stated that, as of 1980, this retrofitting was limited to BRDM and helicopter-mounted ATGMs as an interim measure pending the full deployment of such second-generation ATGMs as the AT-5 SPANDREL and AT-6 SPIRAL. (Suvorov claims that the export "Monkey Models" of the BMP are equipped with a first-generation "Malyutka" (the Soviet designation for the AT-3 SAGGER) but that the Soviet BMPs are equipped with the "Malyutka-M" (possibly the AT-3C, which has an automatic target guidance system.

For all of its tactical limitations, the BMP's SAGGER has proved to be somewhat more useful in Afghanistan than its 73mm main gun. At least one source has said that the BMPs now deployed in Afghanistan are capable of using their SAGGERS to provide direct artillery fire support for dismounted attacking infantry out to ranges of 3,000 meters.

In 1980 the Group of Soviet Forces Germany (GSFG) reportedly received a new version of the BMP that Western observers, in the absence of any known Soviet description, referred to as the BMP-80. The BMP-80 was believed to have a new two-man turret that incorporated a 30mm cannon and a 7.62mm coaxial machinegun in place of the old one-man turret. In 1981 and 1982, reports confirmed that on a number of BMP-1s, the 73mm main guns had been replaced by 30mm automatic cannon. There is speculation as to whether this new cannon was the same as that fitted to the ZSU-30-6, the possible replacement for the ZSU-23-4.

Then, during the November 1982 Moscow military parade, a new BMP, initially referred to as the BMP-30, was publicly displayed. The current designation for this version is the BMP M1981. The BMP M1981 incorporates a 30mm main gun into an improved turret with what appears to be an AT-5 SPANDREL ATGM mounted on top of the turret itself. The SPANDREL — the first of the second-generation Soviet ATGMs publicly displayed in November 1977 — has a semi-automatic command-to-line-of-sight (SACLOS) guidance system. This improved ATGM enables the BMP M1981 to engage armored targets at ranges up to 4,000 meters within a shorter period of time (20 seconds) while decreasing the minimum engagement ranges from 500 meters for the SAGGER to 100 meters.

BMP-M1981

Grenade launchers are clearly visible on this vehicle, with banks of three on each side of the BMP M1981's turret. Interestingly, before the public display of this version, several BMP-1s had been fitted with banks of six fixed smoke grenade launchers located on the rear portion of the turret roof. This modification (as well as that on the BMP M1981) augments the BMP's smoke-screening capability (produced by injecting raw diesel fuel into the exhaust manifold of the engine). While in the past, smoke screens were emitted only behind the vehicle, the addition of forward facing grenade launchers provides for some degree of self-screening protection across the BMP's frontal arc.

In a modification that is clearly the correction of an earlier design vulnerability, the commander's infrared searchlight has been moved on the BMP M1981. Now located on the turret, it no longer blocks the full traverse of the main gun. This new design also removes the "dead space" that left the earlier BMPs highly vulnerable to close-in antiarmor weapons fired at them from the left front portion of the hull.

Further refinements in the design of the BMP M1981 include flat, smooth covers over the track support rollers (in contrast to the cube-shaped BMP track cover pattern), and one reliable source has even claimed that another machinegun port has been located forward of the turret in the bow of the hull.

TROOPS

The BMP troop compartment is located in the rear portion of the hull directly behind the turret. This compartment, capable of carrying eight fully-equipped infantrymen, has four firing ports on each side of the vehicle. The forward port on each side is used for firing the 7.62mm PKM light machinegun while the remaining ports are for firing the AKMs (or AKS-74s). The left door at the rear of the BMP also has a firing port. Four heated periscopes located on the roof on each side of the BMP assist in aiming. Each firing port is equipped with a ventilation system to prevent the accumulation of gasses during prolonged firing.

The firing ports permit the troops inside the vehicle to provide a high volume of suppressive fire during high-speed movement while remaining "buttoned up." In addition, the infantrymen are able to operate in an NBC en-

vironment without exposing themselves to contamination.

But this setup, as advantageous as it sounds, has met some serious problems in Afghanistan. During the early stages of the Soviet invasion, for instance, there was a marked reluctance on the part of Soviet infantrymen to dismount from their BMPs, even when they were caught in ambushes. Occasionally, this had disastrous consequences for the Soviet soldiers, because Afghan rebels have reported that the BMPs have a tendency to burn or even explode "spectacularly" when they are hit by light antitank weapons such as captured RPG-7s.

Troops enter and leave the troop compartment through two doors located in the rear of the vehicle. Each door, hinged from the outside, carries a 150-liter fuel cell built into it and connects to the engine by a rubber hose. Although the diesel fuel in these cells is not highly combustible, hits that penetrate the door can result in a significant fuel loss, which will eventually affect the BMP's mobility. On recent versions (BMP M1981), reportedly, both rear doors have been replaced by a single, power-assisted, drop-down ramp that should make it easier for infantrymen to get in and out of the vehicle. The effect of this new approach on the placement of the two fuel cells traditionally located on the rear access doors remains uncertain.

Apparently, the Soviets are satisfied with the automotive performance of the BMP, having retained the 280-hp, water-cooled, six-cylinder diesel engine for all models of it. Although the BMP has been credited with a maximum cruising speed of 55 to 60 kilometers per hours, U.S. drivers testing captured BMPs have been able to achieve top speeds of between 70 and 80 kilometers per hour. Such speeds, though, can be maintained only for short periods of time because of vibration and the strong possibility of transmission failure. Despite certain automotive limitations, the BMP has demonstrated a high degree of effectiveness in its cross-country mobility during combat operations in Afghanistan.

At least one recipient of Soviet-made BMPs has experimented with a different engine. As of 1979, the Egyptian Army had refitted about 150 BMPs with French-made 310-horsepower diesel engines. Furthermore, in 1981 the Egyptians did more engineering work on the BMPs they had received, possibly for production and export purposes.

VARIANTS

The BMP design has become the basis for a number of variants, each of which performs a specific mission. (The designation of each indicates the year in which it was first seen by the West.)

A command version of the BMP, designated the BMP M-1974 command vehicle, differs from the BMP-1 primarily in having additional communications and optical equipment. A redesigned troop compartment incorporates tables and a map board. Externally, additional radio antennas have been mounted and the firing ports on the right side of the vehicle eliminated or welded shut.

Later command versions of the BMP, the BMP M-1978 command post vehicle and the BMP M-1978 command and communication vehicle, mount large telescoping antennas and additional radios. Unlike the BMP M-1974, however, the BMP M-1978 series is unarmed. It is found at regimental and divisional levels and has been referred to as the BMP-SH.

The five-man BMP M-1975, also known as the BMP-RADAR or BMP-SON, is a target acquisition and battlefield surveillance vehicle. It incorporates the SMALL FRED radar mounted on the rear of a two-man turret, which is equipped with a 7.62mm machinegun. The radar is folded down when not in use. The BMP M-1975 has been seen with 122mm M-1974 and 152mm M-1973 self-propelled artillery units assigned to motorized rifle and tank divisions.

The BMP M-1976, or BMP-R, a command and reconnaissance version of the BMP, has been deployed as a replacement for the PT-76 light tank that is normally found in regimental and divisional reconnaissance units. It has the same enlarged turret as the BMP M-1975 but mounts a 73mm main gun without the SAGGER launch rail. Two instead of four roof hatches are mounted to the rear of the BMP M-1976 turret.

The BMP is currently in service in several countries outside the Soviet Union — some of them friendly to the West. These include Czechoslovakia, Egypt, East Germany, India, Iraq, Libya, Poland, and Syria.

The modifications and improvements that continue to be performed on the BMP indicate that it is still going strong after 15 years. Early modifications to its hull design and suspension system improved the vehicle's mobility. Changes in its weapon systems have increased its flexibility and lethality. With this continuing modernization effort, it is evident that U.S. Infantrymen will be required to study the BMP for many years to come.

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THE COMMANDER AND THE DEFENSE COUNSEL

CAPTAIN STEPHEN J. KACZYNSKI

AUTHOR'S NOTE: This article is intended to complement "The Commander-Attorney Relationship," by Major Danford F. Carroll and Captain Rita R. Carroll, which appeared in the September-October 1982 issue of INFANTRY. The opinions and conclusions expressed herein are those of the author and do not necessarily reflect the views of The Judge Advocate General's School, the Judge Advocate General's Corps, the Department of the Army, or any other government agency.

More than two hundred of them are in the Army today. They routinely question the fairness of commanders and the professionalism of the police while extolling the virtues of convicted murderers, rapists, and thieves. And no one on an Army installation can prevent them from continuing this seemingly disruptive course of conduct.

But it's their job. They are attorneys serving as defense counsels.

To the commander of a unit, a defense counsel frequently appears to be an obstacle to the effective administration of discipline to one of his chronically deficient soldiers. To a defense counsel, a commander may appear to be a vindictive and uncooperative impediment to the fair disposition of a client's case. But to a large extent, such antagonistic attitudes develop because one of the two fails to understand the duties and responsibilities of the other. Worse yet, both may fail to understand.

To a commander, a defense counsel is often demanding, always inquisitive, and apparently single-minded in his attempts to thwart the swift dispensation of well-deserved discipline to a disruptive soldier. But he should

look at it from the counsel's point of view.

The canons of legal ethics require that a defense counsel zealously represent his client, within the bounds of the law. The welfare of the client is his foremost concern, just as the government's case is the prosecutor's main concern. While a defense counsel is not allowed to advocate a position that is known to be legally foolish or that is designed solely to delay the proceedings at hand, he not merely *may*, but *must*, try to use every available legal strategem for the benefit of his client.

Occasionally, this obligation may require an attorney to do some pretty unpleasant things. The circumstances of a particular case may dictate, for example, that he try to establish bias on the part of his client's commander, or to question the truthfulness of a noncommissioned officer, or to demonstrate that the military police may have acted more like immature adolescents than like professional law enforcement personnel. But however gleeful a defense counsel may appear while doing these things, the commander should realize that *none of it is personal.* That counsel is doing only what he is duty-bound to do, much as a prosecutor must relentlessly question the motives of an alibi witness, expose the bias of a friend of the accused, or highlight the weaknesses in an accused's claim of self-defense.

Moreover, a defense counsel must pursue whatever "legal technicalities" may be available to his client. The rules for trial by a court-martial or action by an administrative board are well documented and well known to both parties to a proceeding. If the government has failed, even technically, to abide by those rules, a defense counsel must decide whether to insist that the government comply, depending upon the advantage to be gained for his client.

DECISIONS

A commander should also recognize that in a legal proceeding the defense counsel does not make all the decisions. While he does make decisions concerning trial tactics, his client makes certain other decisions himself — and frequently against his counsel's advice. For example, the client decides whether to accept nonjudicial punishment or to demand trial by court-martial. In certain administrative actions, the soldier determines whether or not to present his case before a board of officers. In a court-martial proceeding the accused soldier makes *all* the basic decisions — whether to plead guilty or not guilty; whether to elect trial before a military judge alone, a jury of officers, or a jury of officers and enlisted members; whether his defense counsel should be a detailed military attorney, an individually requested military attorney, or a civilian attorney; and whether or not to testify in his own defense. In all of these instances the defense counsel can only advise him.

But a commander, frustrated by the choices of an accused soldier — such as contesting a "cut and dried" case or refusing an Article 15 when it is offered — may blame the attorney's influence. The commander should realize, though, that the same soldier who is charged with disobeying a half-dozen orders may well also disregard the advice of his counsel concerning those basic trial decisions.

OTHER SIDE

On the other side of the issue, a defense counsel must try to understand a commander's responsibilities, which are quite unlike those of any other occupation or profession. Even in peacetime, a commander must train his troops to attain the degree of proficiency and readiness they will need to perform in wartime. All else must be subordinated to that end, and the military legal system plays only a small part in that process.

A commander, therefore, does not take legal proceedings lightly. He can use counseling and admonitions, both oral and written, extra training, administrative action, and, now, the summarized Article 15 as lesser means of reforming a soldier and achieving the goal of a cohesive and effective fighting force. When he resorts to elimination procedures or to nonjudicial or court-martial action, it is only because these lesser remedies have been exhausted, or because the service member has committed a serious infraction.

A trial by court-martial, after all, removes the accused from the commander's control and places him either in the hands of a judge, who is a lawyer, or in the hands of a panel of court members who, by law, must be unfamiliar with the accused's case. The commander must trust that the trial counsel, who may have had little or no contact with military matters before attending the Judge Advocate General Corps Officer Basic Course, will present a sufficient and convincing case, first, to convict the accused and, second, to attain an appropriate sentence.

The decision concerning the most appropriate action to take against an offender is never an easy one. There is no right answer, and the parties concerned can only try their best to fashion a solution that will benefit the service and also be fair to the soldier. There may be no other area in which a commander and a defense counsel look at a problem from such markedly different perspectives.

A commander, as always, focuses upon the big picture, his unit's mission. The manner in which the military legal system deals with an accused soldier will probably have an effect on his unit's morale and discipline. This effect is intensified if the victim of the accused's wrongdoing is another member of the unit. For these reasons, the unit, and the victim, will want to see that justice is done.

Even if the accused's offense was a "victimless crime," such as involvement with drugs, that unit's commander will want the outcome of the case to have a deterrent effect on any of his other soldiers who may be inclined to engage in the same activity.

The perspective of a defense counsel is considerably narrower. His sole concern is his client's best interests. What those best interests are and how much the counsel

can do to advance those interests will vary from case to case. It is the occasional incompatability of a commander's broad concern and a defense counsel's limited concern that can lead to friction between the two parties.

For instance, if a soldier has been a chronic and visible troublemaker, his commander, desiring a deterrent effect, will probably prefer court-martial charges for a transgression and will recommend disapproval of a request for discharge for the good of the service under Chapter 10, AR 635-200, if such a request is submitted. On the other hand, a defense counsel, if the accused soldier has shown a desire to leave the service, would see the Chapter 10 route as a quick and guaranteed means by which the commander could rid his unit of a problem. After all, a trial by court-martial does not guarantee conviction, and conviction itself does not guarantee a discharge or even confinement.

As to the charge that the lack of a trial would make it appear that the accused had "gotten over" on the system, a defense counsel would respond that the lifelong stigma of an "other than honorable discharge" — the worst administrative discharge the Army can give — is hardly a free ride home.

But a defense counsel may not fully realize how the workings of the military justice system can affect a unit. The same accused who may appear contrite and reticent in the defense counsel's office or in the courtroom ("I'm sorry, sir, I've learned my lesson and will never do it again") and on whose behalf the defense counsel is attempting to preach "reason" to the soldier's commander, may loudly taunt the chain of command upon returning to the unit ("You didn't get me this time, did you, Sarge?"). Although this blindness is mutual — the commander doesn't always see the potentially reformable side of an accused, either — the greater danger to military discipline may stem from the defense counsel's myopia. For this reason, a defense counsel must find out *everything* about his client, both good and

bad, and, if necessary, he should read his client the riot act.

PROCEEDINGS

When a case does get to the point of legal proceedings, though, the defense counsel should remember that, no matter what the commander does, he is not a lawyer. He does not have the specialized knowledge of fine legal points, such as search and seizure, punishment versus training, pretrial confinement, or the proper preparation of a charge sheet and allied papers. Thus, any impropriety in such matters is likely to stem as much from innocent ignorance as from intentional ill-will. But the suspicious defense counsel, often armed only with the accused's tale of woe, may too readily believe that the commander's ill-will is responsible.

A defense counsel should remember, too, that while the trial is an all-consuming concern to him, it is only one of the many matters a commander must deal with at any given time. Training must go on, deployments must take place, and IG inspections must be weathered. A commander is concerned, certainly, with a proceeding in which one of his soldiers might be sent to jail, but he is more concerned with keeping his unit in an appropriate state of readiness for war.

For these reasons, the most irritating part of the court-martial process for a commander may be the numerous requests by both trial and defense counsels to speak with witnesses before the trial. And the most strident and seemingly unreasonable demands for these interviews normally come from the defense counsel: "I need to see Sergeant X *today*!" The sheer number, not to mention the tone, of such "requests" may tend to raise the hackles of a commander who has a good many other things to do and who probably needs those witnesses to help him do those things.

But a commander should understand that such requests for interviews are not unreasonable. One of the fundamental rules of witness examination is that an attorney should never ask a question in court unless he already knows the answer to it; and the only way he is going to know the answer is to speak with *all* the witnesses in the case in advance.

A defense counsel, especially, has good reason for his repeated and urgent requests. First, no one investigates a case for the defense. In fact, a defense attorney must wait while military investigators virtually hand the government's case to the trial counsel. Additionally, the government picks the place for the trial, and a military judge sets a trial date with which all parties, except for good cause, must comply.

SUSPENSE DATE

At this point, with the clock already ticking toward a trial date, a defense counsel has to start from scratch. After hearing the accused soldier's tale, he must locate and speak to each potential defense witness the accused soldier has revealed. Each of these witnesses in turn may lead to other potential witnesses. And all of them must be interviewed by the suspense date the military judge has set. (These time pressures are greatly increased in jurisdictions that have no permanent judge and in which a judge has to travel from somewhere else. In such cases the judge's time is especially precious, and requests for delays by defense counsel are particularly ill-received.)

When this necessary preparation is multiplied by the defense counsel's case load, which may be substantial, it is easy to see why he considers time so valuable and why scheduling interviews becomes an occupational obsession. But there are ways in which the commander and the defense counsel can cooperate to resolve this problem.

If the witnesses are in the field and it would be impractical to bring them back, for example, the defense counsel should go to the field to interview them. As he has no vehicle of his own, the commander or the supporting staff section should provide transportation for him. The commander should also make sure the witnesses are on hand at the scheduled time and that some kind of private meeting place is available.

Even in garrison, if several witnesses are in the same unit, the defense counsel should go to the unit area to interview them. (The commander should provide office space for the attorney and see that the witnesses are within hailing distance.) The attorney will find this convenient because, if the name of another potential witness should come up during the interview, chances are that witness will be nearby also. A commander can benefit from this arrangement, too, because his soldiers can stay at their jobs until called upon, instead of wasting time sitting in a waiting room miles away.

NEW ARTICLE 15

The new summarized Article 15 procedure has given a commander an additional disciplinary tool to use in dealing with minor infractions of military law. The new procedure entirely eliminates the defense counsel, a perceived interloper, from the process; the accused has no right to see a lawyer before deciding whether to accept the Article 15.

The new procedure, however, does give an accused soldier the option of demanding trial by court-martial. Some defense counsels fear that this may cause an accused soldier to consult the ever-ready substitute for legal counsel — the barracks lawyer — for advice. The accused may then refuse the Article 15, using such popular but hollow defenses as "I knew another guy who did it and nothing happened to him," or "They're out to burn me," or "We have a personality conflict." Time will tell whether this is a problem.

In the traditional, formal Article 15, an accused soldier has a right to consult with a defense counsel before

making any decisions. A defense counsel sees this right as important because it gives him an opportunity to dispel any misinformation the accused soldier may have picked up in his billets. Many an unnecessary court-martial is thereby avoided, for only in the most exceptional case is an accused soldier advised to refuse the Article 15 and demand a court-martial. After all, a court-martial is played for pretty high stakes.

But before a defense counsel can render any advice in such cases, he has to be informed about the circumstances of the charge. Many defense counsels require that an accused soldier be given copies of all statements relevant to the case when he is sent for legal advice. If the paperwork is not provided, the accused soldier is sent back to the unit to get it.

This requirement is not designed to harass a unit commander. Rather, the purpose is to give a defense counsel a source of information about the case other than the accused, who is perhaps the most unreliable source involved. If a commander fears that an accused soldier may destroy the paperwork, then he can give it to an escort to take to the defense counsel's office. An accused who is considered so untrustworthy will probably have an escort anyway to lead him to the defense counsel. A commander should realize that, in the vast majority of Article 15 cases, a defense counsel's informed advice to an accused soldier will be to accept the nonjudicial punishment and avoid a court-martial.

UNDERSTANDING

In any given case, the commander and the defense counsel can avoid conflict if they both understand the situation a little better from the start.

For the defense counsel, a good beginning is to visit the commander early to find out about his client. Together, they may be able to work out options other than court-martial before the case has escalated to a test of the commander's authority in the eyes of both his superiors and his subordinates.

For the commander's part, he is encouraged to be open about the case. He should not withhold information from the defense counsel pending clearance from the prosecutor. The tactic of the "surprise witness" remains only in *Perry Mason* reruns. If the commander tells the defense counsel what he knows about the accused and the unit and why he is taking a particular action, then the defense counsel, although he may still not agree, will at least be comforted to know that he is dealing with a rational person.

Another way to improve his rapport with commanders is for a defense counsel to attend such functions as officer calls so they can meet the commanders of the units they support. But they should not socialize with those commanders in places like theaters, bowling alleys, or snack bars where a number of troops are likely to be.

The Army has, in fact, gone to a good deal of trouble in recent years to eliminate the appearance that a defense counsel can be obligated to or influenced by anyone associated with the prosecution. In fact, the implementation of the U.S. Army Trial Defense Service in 1979 severed the supervisory tie between the defense counsel and the local staff judge advocate and the chain of command. When this is explained to an accused soldier, it usually increases his confidence that his defense counsel is working only for him.

But if a soldier sees his commander and his defense counsel in a social setting, he might well wonder whether his commander is in a position to influence his counsel. He might find it hard to see how, after bowling with his commander, his counsel could then effectively cross-examine that commander concerning a charge of disobedience or disrespect, or impugn the commander's motives on a search and seizure issue. Just as the evil of fraternization lies in the appearance of influence, so, too, must a commander and a defense counsel keep a respectable distance in highly visible social settings.

The commander-defense counsel relationship is a difficult one; novel situations arise every day that pit the interests of one against the interests of the other. It is only through a mutual understanding and appreciation of the duties, responsibilities, and limitations on compromise inherent in each position that the entire military legal system can function fairly and effectively.

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Heroes Born of Battle

Reprinted from INFANTRY IN VIETNAM, published by INFANTRY Magazine in 1967 and recently reprinted by The Battery Press. This account is contained in the request for A Presidential Unit Citation submitted by the 1st Battalion, 12th U.S. Cavalry, 1st U.S. Cavalry Division.

Success or failure in battle is often decided by an intangible ingredient that lies dormant in many men until the need is apparent. This intangible but essential ingredient — courage — produced tangible results in unexpected quarters during early October 1966 when the 1st Battalion, 12th U.S. Cavalry, assisted by Companies A and C, 1st Battalion, 5th U.S. Cavalry, met and defeated elements of the 7th and 8th Battalions of the 18th North Vietnamese Army Regiment in the Village of Hoa Hoi in the fertile coastal region between the Phu Cat and Min Mieu mountains of central South Vietnam.

Earlier, during Operation THAYER, the 1st Battalion, commanded by Lieutenant Colonel James Root, had met only light, scattered enemy resistance as it had swept toward Hoa Hoi. But now, in the opening phase of Operation IRVING, an enemy battalion had been reported in Hoa Hoi, and as Colonel Root deployed his companies to encircle the village, the feeling persisted that strong enemy resistance would be encountered. (See Map 1)

Company B, commanded by Captain Frederick Mayer, was the first of Root's units to be air assaulted into the area, landing at 1005, 2 October on an open beach 300 meters east of the village. As Captain Mayer maneuvered his platoons to the southeast of Hoa Hoi, they came under intense enemy small arms and mortar fires, and two of the mortar rounds landed in the immediate vicinity of the company command post, wounding Mayer and four others. Although he bled profusely from fragment wounds in his face and forearm, Mayer continued to direct Company B's drive through a well prepared enemy bunker system that criss-crossed the entire area.

The 2d Platoon, proceeding across an open area, came under particularly heavy fire and was momentarily halted. At this crucial moment, Private First Class Roy Salazer, realizing his platoon's critical situation, stood up and with rifle blazing advanced on the enemy. Although he was mortally wounded during his charge, Salazer succeeded in setting the example for the other members of his squad, who breached the enemy's booby-trapped perimeter and cleared the way for the other squads to break through the enemy's barrier. Within minutes the enemy force in this area was withdrawing into the village.

Private First Class Francis Royal set the example for the 3d Platoon when he carried a wounded comrade across an open field. He had almost reached safety when he, too, was mortally wounded. But despite his wounds, he managed to drag his comrade the last few feet to cover before losing consciousness.

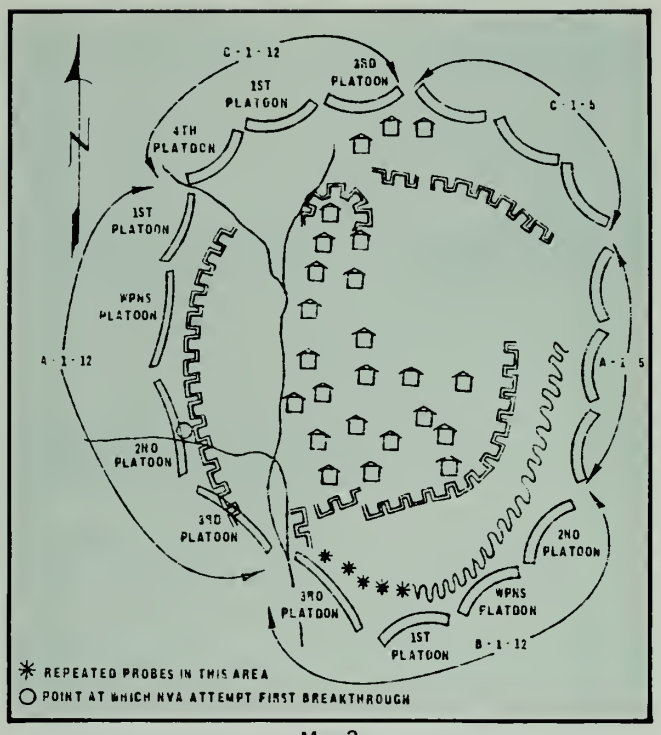
As Company B fought its way into the village from the southeast, Company A landed to the southwest and attacked northeast toward Hoa Hoi. Lieutenant Donald Grigg maneuvered his 3d Platoon toward the village as he and his men came under automatic weapons fire from across an open field. At the same time, though, he noted several elderly men and women, with a few children, walking aimlessly into the line of fire. Grigg threw down his weapon, web gear, and helmet and raced 150 meters through the enemy's fire to the civilians. Picking up two of the small children, he carried them back to the safety of his lines, as the other civilians followed him.

Lieutenant William Prichard's 1st Platoon was the first unit to penetrate the enemy's defenses from the west.

When his point squad came under heavy fire as it broke into a rice paddy bordered by enemy entrenchments, Platoon Sergeant John Sinkovitz and two volunteers crawled forward into the trenchworks and shot it out with the North Vietnamese soldiers, position by position. Although Sinkovitz was seriously wounded, he eliminated two machine bunkers and drew much of the enemy's fire away from the remainder of the platoon. Sergeant Donald Beltz, realizing that the enemy's fire had slackened, rallied his squad and in a fierce charge ruptured the enemy's lines. With his breakthrough, the platoon advanced toward the village on a three-pronged axis with the three squads on line.

In the meantime, Company C had been committed to the battle at 1250, landing north of the village and moving south under the leadership of Captain Darrell Houston. After clearing out an enemy ambush position along its route of advance, largely the work of Platoon Sergeant Robert Jackson and Private First Class Larry Willis, the company continued a slow but methodical advance on the village.

By this time, Companies A and B, had effected a linkup and were beginning to establish positions to keep the enemy from slipping out of the village during the night. Enemy fire again laced Company B, and realizing his unit's exposed situation, Specialist-4 Norman Jackson crawled forward through booby traps and the enemy fire to a position from which he could employ his machinegun against the enemy. With enemy fire kicking up the dirt around him, Jackson fired his machinegun from this position for more than an hour. When his machinegun jammed, Specialist-4 Richard Schmidt, another machinegunner, voluntarily scurried to Jackson's position and maintained fire on the enemy-occupied huts until darkness blanked out his targets.

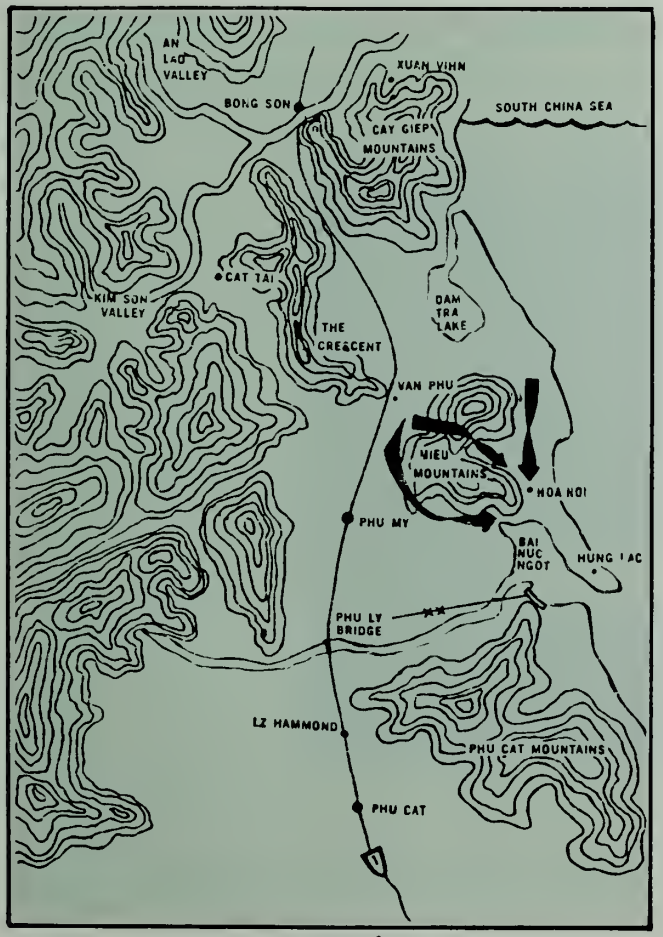


Map 2

During the course of the evening, Companies A and C, 1st Battalion, 5th U.S. Cavalry were airlifted into the area to assist in the containment mission, since it was expected that a full scale attack would not be launched against the village until daylight. The latter two companies went into position along the eastern side of the perimeter. (See Map 2)

On numerous occasions during the night, desperate bands of North Vietnamese soldiers tried to shoot their way out of the encirclement, but every attempt was repulsed. One of the reasons for the successful night containment was the proficiency of the artillery forward observers who called in the fires of the supporting artillery unit — Battery A, 2d Battalion, 19th U.S. Artillery. Captain John Sutton and Lieutenants Stephen Stant and Charles Campanella continually braved enemy fire to get to the best possible locations from which to direct the supporting fires and, during the night, called in almost 900 rounds of artillery fire on the enemy-held village. On one occasion, when the battalion command post came under attack and two men nearby were wounded, Captain Sutton remained in his position and simultaneously adjusted artillery fire while directing flareships overhead to illuminate the battlefield.

During one of the enemy attacks, Private First Class James Pender was seriously wounded in a fire fight in Company C's sector, and an immediate helicopter medical evacuation mission was requested by radio. As the



Map 1

helicopter approached to land, though, the pilot could not pinpoint the exact landing zone, so Lieutenant John Rieke, the company's executive officer, grabbed a flashlight and a radio and dashed from his covered position to the LZ. When he began waving the flashlight, the enemy shifted their fires to the new target. But despite the enemy fire, Rieke stood fast and brought in two helicopters, the second with vitally needed ammunition. Rieke then supervised the medical evacuation and the unloading of the ammunition and saw the two helicopters off before he returned to his own area.

Early in the morning, the enemy soldiers broke through Company A's sector of the thinly spread perimeter, but when Captain Harold Fields led a counterattack with his headquarters element to plug a gap that had opened in his lines, the enemy charge was stopped in its tracks and eventually thrown back.

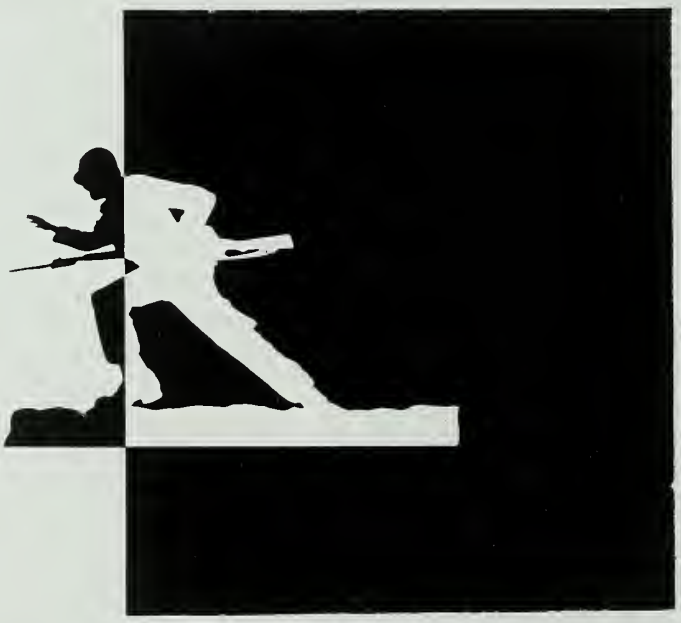
When morning came, Company C, 1st Battalion, 12th U.S. Cavalry and Company C, 1st Battalion, 5th U.S. Cavalry attacked south to drive the remaining enemy into Companies A and B, 1st Battalion, 12th U.S. Cavalry, which were braced in strong blocking positions to take the attack. Several times Company C, 1st Battalion, 12th Cavalry temporarily slowed its advance because of enemy resistance, but each time the company rallied and by individual combat at almost point blank range drove on through the village.

Lieutenant John Rudd's 3d Platoon took the brunt of the enemy's resistance. Just after jumping off, the platoon was pinned down as it tried to cross a large, open rice paddy. As he lay in the dirt of the rice paddy, Rudd saw Private First Class David Osborne stand up and begin firing his machinegun at the bunkers to his front. Specialist-4 Daniel Shubert, the other machinegunner in the platoon, also stood up, and for a few seconds the two soldiers waged a deadly showdown with the dug-in enemy; then, after killing eleven of the enemy soldiers, they led the platoon in a charge through the enemy's bunkers.

A few minutes later, the platoon was again halted by enemy fire, this time coming from a trench concealed in a hedgerow. Try as they would, none of the soldiers could locate the enemy position. That is, they could not until Specialist-4 Gary Lusk, Rudd's radio operator, stood up, exposing himself to the enemy's fire, and began pointing out the enemy position to a machinegunner on his right. The pair worked well, and as the enemy's fire slackened, the platoon again made a successful charge.

The last action seemingly broke the back of the enemy's resistance effort, and Company C had little trouble in completing its part of the operation.

The courage of the fighting men on the ground was the single most important ingredient in the success of the battle of Hoa Hoi. From the moment Company B landed on the beach outside the well fortified village until Company C completed its final sweep, the men of the 1st Battalion, 12th U.S. Cavalry displayed a gallant determination to win, no matter how grave the risks involved. The combination of quick reaction, sound planning, exemplary leadership, and aggressive teamwork fused the men of the battalion into a fighting unit that would not be stopped as they repeatedly charged through enemy fire to accomplish their mission.



TRAINING NOTES

Winning at the NTC:
The Fight in the Gullies

MAJOR VERNON W. HUMPHREY

EDITOR'S NOTE: This is the first in a series of articles on training at the National Training Center at Fort Irwin. The opinions expressed are the author's own and do not necessarily reflect those of the Department of Defense or any element of it.

During the past two years, United States Army units have fought more than 200 battles against a Soviet-style opposing force (OPFOR) under conditions so real that their initial effect was as shattering as actual combat. Month after month, mechanized infantry and armor task forces continue to arrive at the National Training Center at Fort Irwin, California, to undergo 14 days of intensive, nonstop combat against a "Soviet" regiment — actually two highly trained U.S. Army battalions equipped with a mixture of real Soviet equipment and U.S. equipment that has been modified to look and perform like the real thing. During that period, each battalion fights about eight engagements — with force ratios similar to those the Army expects to face in any future war — using the multiple integrated laser engagement simulation system (MILES). In addition to these engagement simulations, each of these units conducts three battalion-level live fire exercises.

These battles in the California desert are *real,* for they duplicate as closely as possible the kind of fighting the Army will face in a future mid-intensity war. They provide, in fact, an acid test for our training, equipment, doctrine, and tactics.

So far, many of the U.S. task forces are experiencing difficulty maneuvering and defending against the well-disciplined and well-trained OPFOR. Ideally, of course, every battalion that goes to the National Training Center should be able to accomplish every assigned mission, destroy the OPFOR in the process, and do this without unacceptable losses. In this series, actual battles the battalions have fought at the NTC will be analyzed, as will the factors that proved decisive for one side or the other.

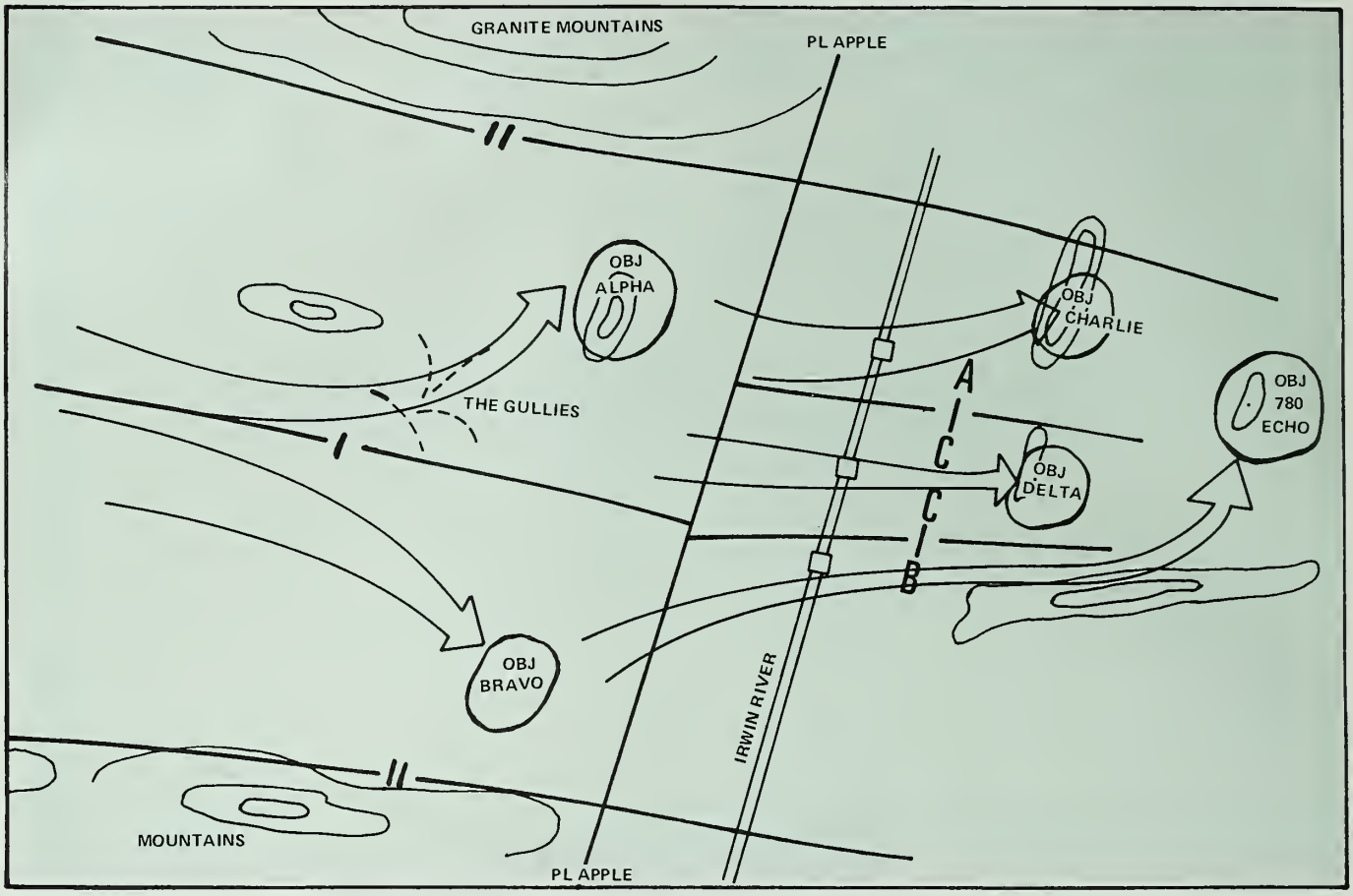
The first of these battles was a movement to contact in which the OPFOR was encountered well short of the point where the U.S. force commander expected to make contact. The latter's plan did not have the flexibility and the balance needed to meet such an eventuality, and the task force was unable to mount an effective hasty attack.

The Mission

The U.S. battalion's mission was to conduct a movement to contact to the east to seize Hill 780 and to be prepared to continue the advance to the east (see accompanying map).

The Terrain

The zone assigned the battalion was about 17 kilometers wide and 20 kilometers long. The Granite Mountains in the north (left) are virtually impassable by vehicle except through recognized passes. The south (right) boundary of the zone is also mountainous, but there are more frequent and wider gaps. The key terrain in the zone includes the high ground on both sides of the "Irwin River" (really a road with designated "fording" sites) and the fording sites themselves. Visibility is excellent throughout the zone, and the mountains offer many



sites for observation posts. Wadis, or dry streambeds, offer excellent high-speed avenues of approach into and through the zone. Innumerable gullies, dry streambeds, and hillocks offer excellent cover and concealment.

The U.S. Plan

The battalion's plan called for its scouts to move out an hour ahead of the rest of the unit. The battalion was to advance with two companies — one pure mechanized infantry company (Alpha) and a mechanized infantry heavy team (Bravo) — abreast. A tank team (Charlie) was to follow, forming a battalion V formation. The company commanders also adopted V formations.

March objectives were assigned to the leading teams, but in most cases the objective assigned to one team was out of supporting range of the objective assigned the other team. As the battalion neared the "Irwin River," the plan called for Team Charlie to come on line. The battalion would then advance with its three combat units abreast.

Execution

The OPFOR consisted of a motorized rifle company reinforced by a T-72 tank platoon.

The first contact for the U.S. units came on the left flank, where Team Alpha encountered a mixed security force of one T-72 tank and two BMPs. Because the scouts had not located his force, the OPFOR commander allowed the scouts to pass unmolested. The OPFOR then opened fire on the flank of Team Alpha and destroyed the left flank platoon, which was moving in formation and not using overwatch. (In fact, there was *no* use of overwatch at any level.)

The trailing platoon in Team Alpha came abreast of the destroyed platoon and was destroyed in turn. The team's right flank platoon continued to move, holding its position in the now non-existent company formation. Finally, this platoon decided to take up a perimeter defense; it made no attempt to establish physical contact with the survivors of the other two platoons.

The OPFOR took advantage of this by driving into the two destroyed platoons and machinegunning the survivors. It then plunged into a maze of gullies and bypassed the surviving platoon, which could see part of this action but did nothing to prevent it. When the OPFOR platoon came to a halt, its position was revealed by heat-waves rising from its exhausts.

In the meantime, the OPFOR had also spotted Team Bravo on the battalion's right flank. Although Team Bravo was in a position to outflank the OPFOR, it was out of supporting range of Team Alpha. The OPFOR assigned a platoon to snipe at Team Bravo, and its superior gunnery made

this an effective economy of force move. This action also allowed the OPFOR to concentrate on the destruction of Team Charlie.

As Team Charlie came up, it moved past the remnants of Team Alpha. Alpha's surviving leader joined Team Charlie but told the team's leader nothing about the OPFOR platoon that was lurking in the gullies just ahead.

As Team Charlie entered the gullies — still in formation — it was engaged at close range by the mixed OPFOR platoon. As the team attempted to overwhelm the OPFOR, it was hit in the flanks by the remainder of the OPFOR, less the platoon that was holding off Team Bravo.

Team Charlie was destroyed, and the OPFOR turned on the tattered remnants of Team Bravo.

Analysis

The U.S. action showed many shortcomings. To begin with, the plan had three major errors:

- It called for too many units forward. It did not call for using the smallest possible element to make contact. Instead, it insured that most of the battalion's combat power would be tied up on an initial contact.
- It put companies out of supporting distance of each other, and allowed the OPFOR to concentrate on the piecemeal destruction of the teams.
- It did not provide a balanced disposition for dealing with unexpected happenings.

Thus, the scouts failed to find the OPFOR; the lead teams compounded this error by moving in mounted formations, which did not provide any real security and allowed two platoons to be shot up while still in their carriers.

Command and control was poor. Bounding overwatch was not used, primarily because the command and control system lacked the ability to adequately coordinate the movement of the subelements.

When the fight began, the battalion's leaders reacted sluggishly. Most of what happened "just happened." Leaders and commanders did not control or maneuver their units. No one seemed to have a clear idea of what was happening, and no one passed along any information.

The U.S. force underestimated the threat presented by a single platoon-sized security element, although it was backed up by the rest of the motorized rifle company.

How It Might Have Gone

In considering an alternative approach, a slightly different scheme of maneuver could have been used with one team leading and the other two alternating overwatch roles. Instead of march objectives, there could have been lots of checkpoints, which would have facilitated command and control and made it easier for leaders to maintain close control over supporting fires and maneuver elements as the battle developed. In any case, small security elements should be treated with respect.

The initial action on contact should have been to suppress the OPFOR. That's the sole mission of the leading team — suppress, develop the situation, and report back.

The next step should have been to isolate the OPFOR platoon. With the initial OPFOR positions suppressed, and with a clear idea of the size, composition, and location of the OPFOR, the reserve team could have maneuvered to interpose itself between the OPFOR platoon and the rest of the OPFOR.

With the OPFOR platoon isolated and suppressed, one team should have been ordered to attack and destroy it. Both of the other teams could have supported this attack by contributing their fires. Thus, the OPFOR platoon would have been forced to face suppressive fires from two directions while defending against an attack from a third direction. The remainder of the OPFOR unit would have been unable to come to the platoon's assistance. The U.S. force would have seized the initiative and concentrated overwhelming force at the point of decision, and then could have defeated the OPFOR in detail.

LESSONS

A number of lessons can be drawn from this one engagement:

- It is an old truism, but a valid one, that no plan survives contact. Once contact is made, the battle must be fought by timely and continuous command and control.
- Units that are out of range are out of support. A gap of more than 2,500 meters between its companies exposes a battalion to defeat in detail.
- Mutual support can be accomplished only by the commander actively maneuvering his units. While the use of checkpoints and other control measures facilitates this, nothing can substitute for direct control.
- In a movement to contact, the OPFOR must be made to expose itself while the U.S. force still has enough uncommitted forces to take advantage of any OPFOR weaknesses.
- Once contact is made, a commander must ask himself: "Where is the parent unit of the force I am engaging?"
- In tank country, tanks lead. In infantry country, dismounted infantry leads. To put mounted infantry in the lead is to send lightly armed and armored vehicles into country where even tanks might fear to tread.

Initiative doesn't mean that each soldier is expected to come up with a brilliant solution to each tactical problem. It means that each soldier should know what his unit's mission is and seek ways to accomplish that mission.

MAJOR VERNON W. HUMPHREY is assigned to the U.S. Army Training Board at Fort Eustis, Virginia. Commissioned through OCS in 1963, he commanded two companies in Vietnam. He holds two graduate degrees from Georgia State University and has had several articles published in various military journals.

Marne Maneuver Training

LIEUTENANT COLONEL RICHARD J. MORGAN, JR.

Mounted maneuver in a mechanized infantry division, to be effective, requires some kind of standardization of techniques and operational terms among the units involved. In an effort to establish such standardization, the 3d Infantry (Marne) Division in Germany has published a pamphlet called *Marne Maneuver* — the result of more than a year of study, testing, and revision.

This pamphlet, coupled with the standard tactical terms established in the division's tactical SOP and in other sources, forms the basis for small-unit tactical training in the division. It establishes a basic fighting philosophy for mechanized infantry that stresses fighting mounted whenever it is practical to do so, with all crew-served weapons manned. It specifies techniques that are applicable to the M113 and the current MTOE and that also provide a natural bridge to the Bradley IFV and the Division 86 structure. In addition, it incorporates the essential infantry attitude that is needed to conduct combined arms tactical training with the Abrams tank.

The standardization of maneuver techniques and operational terms at division level provides the flexibility the division needs to cross-attach its battalions freely with little concern for the variance in tactical SOPs.

The small-unit maneuver formations most commonly employed in the division are the platoon wedge, and at company level, the combat V, an incremental approach to bounding overwatch. The combat V formation incorporates mutual support, flexibility, maximum firepower forward, and command and control. It is the basic fighting formation at company level for virtually all modern armies, including Israel and the Soviet Union.

With the V, a company's elements displace automatically without relying strongly on their FM radios, which makes "silent running," or moving without any radio transmissions, possible. The V also allows commanders to vary their formations, frees them from the movement of individual vehicles, and allows them to anticipate future actions. Although the V is not a cure-all for all tactical situations, it does give a unit a basic maneuver capability.

This is how the V formation works: Basically, a company maneuvers its platoons by mutually supporting bounds while the base of fire elements at the apex follow the lead elements automatically, keying on their bounds. At platoon level, this formation changes to the combat wedge (Figure 1).

The first point element reports, "SIX, THIS IS RED; MOVE, OUT," then moves, establishes its bound position, and reports, "SIX, THIS IS RED; SET, OUT." The point element moves automatically when the first element reports SET. Then the second reports, "SIX, THIS IS WHITE; MOVE, OUT," establishes its bound position, and reports, "SIX, THIS IS WHITE; SET, OUT." Then, rhythmically, the first element reports and moves automatically when the second element reports "SET," and so on. The apex element keys its advance and automatically displaces on the advance of the point element.

In platoon-level movement, a pla-

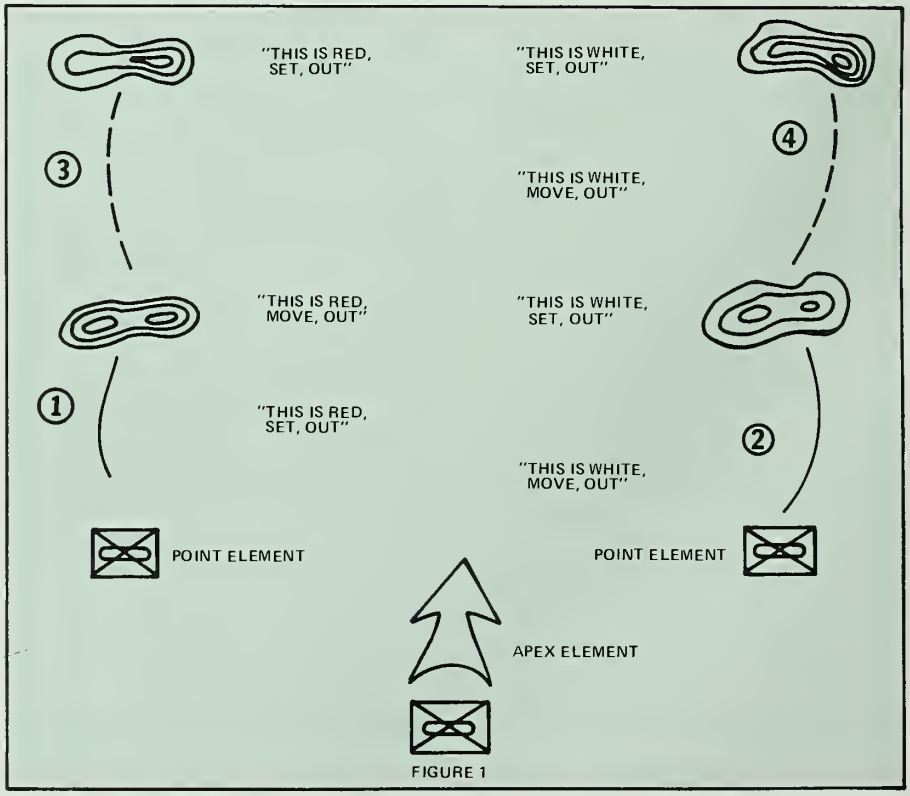


FIGURE 1

toon normally moves in a wedge formation and as a single element, except in split drill. A platoon uses split drill whenever its movement cannot be covered by another overwatch element from the company team. Most commonly, this is used in conjunction with mixed armor and infantry company team formations where the light arm of the team is directed to lead because of the METT variables.

The platoon wedge and the split drill are keyed to a two-section platoon organization, each consisting of a lead vehicle and a wing man (Figure 2). These lead vehicles are commanded by the platoon leader and the platoon sergeant. When the wedge moves as a single element, the platoon sergeant guides on the platoon leader, and each trail vehicle guides on one of the two lead vehicles. In split drill, the "SET/MOVE" sequence used for company level movement applies to the two sections of the platoon with each wing vehicle following its designated lead vehicle. Mutual support comes from within the platoon.

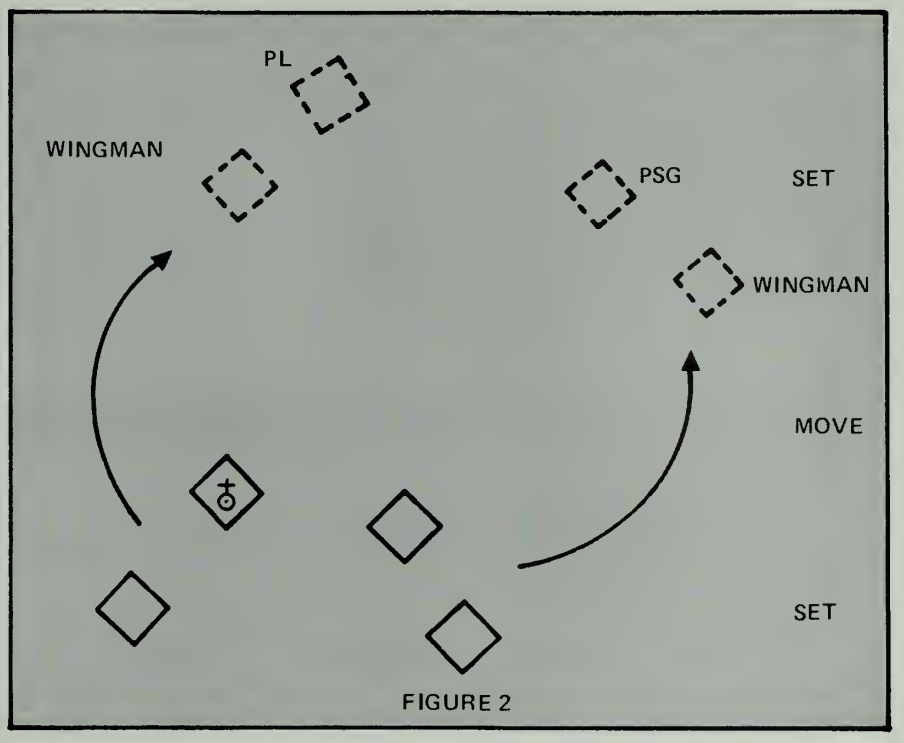


FIGURE 2

COMBINATIONS

These and other techniques described in detail in the pamphlet consider all the likely combinations of armored and infantry forces at company level. The pamphlet also incorporates numerous mounted immediate action drills to facilitate rapid execution at both the platoon and company levels. These include vehicle defile drills, which provide for the rapid securing of the shoulder of a defile and the movement through, employing "MOVE/SET" techniques; punch drills, which facilitate rapid responses to enemy troop contacts; and other drills commonly in use within the infantry community that provide for reaction to enemy artillery, aircraft, and antiarmor fire.

Marne Maneuver stresses mounted operations with all crew-served weapons manned to provide the most firepower because of the relatively small size of mechanized infantry squads and because dismounted fire and maneuver are rarely practical below platoon level. The pace of the modern battlefield and the value of combined arms maneuver also argue against using dismounted maneuver. Nevertheless, the division does recognize there is sometimes a need to fight dismounted. As a result, two types of dismounted action — hasty and deliberate — are taught and included in the pamphlet.

During a hasty dismount, only enough soldiers to accomplish the mission are dismounted. Light crew-served and antiarmor weapons can be dismounted if they are needed. The remainder of the squad should continue to fight with the vehicle and overwatch the dismounted elements.

The division teaches that a hasty dismount should be used:

- To conduct defile drills.
- To establish a screen, an LP, or an OP.
- To establish a battle position during a delay operation.
- To conduct a hasty dismount attack during a punch drill.
- To establish dismounted "hunter/killer" antiarmor teams.

During a deliberate dismount, most of the soldiers in a vehicle are dismounted, along with the crew-served weapons necessary to accomplish their mission.

A deliberate dismount, the division says, should be used:

- When conducting a position defense or when given a defense mission.
- When an objective cannot be suppressed or cleared in any other way.
- When clearing obstacles that cannot be by-passed.
- When conducting night attacks or patrols.

In training its units to use these various maneuver techniques, the division stresses, in sequence, chalk talks, dismounted simulations of simple mounted formations, and the use of MILES (multiple integrated laser engagement system) equipment in conjunction with a maneuver course.

Four basic steps are followed in the division's training program for its mounted practical exercises:

- Using an open area for the physical configuration of elements for platoon and company movement.
- Moving for short distances on simple terrain, employing set/move drills.
- Training in objective-oriented movement in dispersed formations over varied terrain.

• Employing increasingly complex maneuvers involving battle drills.

Because of a continual personnel turnover, the integrated use of the division's operational terms and its maneuver techniques is a challenge, both to a unit and to an individual soldier. But the principles employed are simple in concept and easy to learn. They provide a common basis for understanding within the Marne Division and provide an effective operational structure for mounted small-unit training. Other armored and infantry units might also find these techniques useful.

LIEUTENANT COLONEL RICHARD J. MORGAN, JR., commands the 1st Battalion, 30th Infantry, 3d Infantry Division. Among other assignments, he served as an advisor in Vietnam.

New Zealand's Staff and Tactics Course

CAPTAIN MICHAEL W. ALVIS

The Grade II Staff and Tactics Course, the premier school in the New Zealand Army, is an intensive individual training program aimed at preparing regular army officers for field grade staff assignments and for higher levels of command.

The class is usually composed of about 15 New Zealand Army majors and promotable captains and four to six officers from such nations as the United Kingdom, Australia, Fiji, Malaysia, and the United States.

Every year since 1963 a combat arms officer from the United States has attended the course under the auspices of the Western Command based in Hawaii. Most of these have been from the 25th Infantry Division. Recently, though, officers from other units have been given an opportunity to attend. All of these officers have found the school challenging, and they have derived an additional benefit by experiencing at first hand an alternative officer development program.

The course is divided into three phases: the pre-course, the resident phase, and the final testing board.

Four months before they report for the resident course, each class member receives his pre-course requirements and a copy of the New Zealand P86 Staff Notebook.

FIRST EXPOSURE

From the written exercises the overseas student gets his first exposure to the New Zealand Army's abbreviations, overlays, staff tables, and operational message writing. (The importance of being thoroughly familiar with this material becomes apparent later in the first week of the resident phase when the officer learns that strict time limits are imposed on all exams. Additionally, he finds that great emphasis is placed on neatness and appearance in all written work.)

In the pre-course, each officer must develop a formal briefing on a subject assigned by the course's directing staff. The New Zealand officers are divided into groups on the basis of their geographical locations and assigned a military history topic. Each three- to five-man group studies a different phase of war and later presents its findings at the appropriate time in the resident course when that block of instruction is taught. The format consists of a summary of the conduct of the operation, a description of the enemy situation, and an in-depth analysis of the staff and tactical aspects.

Overseas students individually are assigned subjects of general concern to the class as a whole. The School's staff is particularly interested, for example, in the force modernization and restructuring efforts of the U.S. Army and in the multinational peacekeeping missions in the Middle East.

The most challenging pre-course assignment is a 2,000- to 4,000-word essay. The class is assigned a topic that each officer must develop in a form suitable for publication in a military or civilian professional journal. The final grade is based on the selection of the essay's aim, the logical presentation of the assumptions and arguments, and the relevance of the

author's conclusion with regard to the text of the paper.

The members of the overseas contingent report early for the resident phase to participate in an extensive one-week block of instruction on the New Zealand Army's organization, weapons, and tactical doctrine. The directing staff leads the group through a series of tactical exercises without troops (TEWTs) in the surrounding countryside. During this time, the staff also provides assistance, if it is needed, to any students who have had difficulty with any of the non-graded pre-course assignments.

The following weekend the New Zealanders join the class and move into the student dormitory, where each officer is given his own room. "Living in" is mandatory, even for permanent party personnel; this arrangement contributes greatly to class unity and facilitates night and weekend syndicate work.

FIRST WEEK

The climate of the course is quickly established during the first week with three tests and a heavily weighted tactical exercise. Fortunately for the class, two of the evaluations involve subjects that have been covered in the pre-course, and the weekend problem is more a demonstration of each officer's ability to think logically than a complex integration of combined arms concepts.

The Royal New Zealand Air Force provides instruction in the use of offensive and transport air support, air reconnaissance, and air defense. Specific subunit subjects range from requesting and employing tactical air resources to briefing pilots on intelligence-gathering missions. Particular attention is devoted to the deployment of low level air defense resources and the passive measures available to the infantry commander in a hostile air environment.

The pace slows slightly in the three succeeding weeks with numerous lectures and classes on combined arms doctrine, special operations, and defense management. The heads of New Zealand's Infantry, Armor, Engineer, and Military Police Corps brief the class on the mission of their respective branches. Instruction is also given in special operations (civil resistance and counter-insurgency) and in defense management (planning, procuring, and managing defense resources).

After a nine-day recess, during which they can relax, reflect, and prepare for the next phase, the students begin the fifth week, which is the busiest of the course. It consists of seven assessed exercises and a weekend problem, which is to write a TEWT. The students receive classroom instruction in preparing operations orders, in logistical planning, and in the defensive phase of war. Defensive operations are addressed at the infantry battalion and brigade levels in a conventional, limited war scenario. In the field, students develop tactical proficiency through TEWTs involving counter-penetration, counterattack, withdrawal, and relief operations. The highlight of the week is a two-hour address by the Chief of the New Zealand Army's General Staff.

Next, the course concentrates on the staff functions and area defense planning of a division headquarters. All aspects of operating and staffing a headquarters are discussed in detail, after which each student prepares a division operations order. Seven other written evaluations test each student's ability to identify, marshal, and manipulate logistic data and to communicate that information in support of operational plans. In tactics, the TEWT training method is expanded to integrate antiarmor, engineer, and air defense resources into pure infantry units.

The seventh week features division level logistics and additional defensive tactical training. The student learns the supply system within the division and is graded on his ability to plan logistical support for offensive, defensive, and special operations. He also becomes familiar with the roles and capabilities of service units and broadens his planning base to include these assets.

The defensive phase is completed with a study of the active defense and the principles of delaying actions on a conventional modern battlefield. At week's end, the Secretary of Defense spends an evening with the class and provides an insight into international security and New Zealand's defense policy.

During the last two weeks of the course, the officers learn to apply the principles of the offensive to a limited war setting. In TEWTs each officer expands his tactical expertise to include the advance and the attack. Additionally, he learns how to use engineer units to breach battlefield obstacles and is evaluated on his understanding of enemy defensive tactics and the ability to predict their effects on offensive operations.

FINAL BOARD

Just before the final testing board, a trial panel is convened, made up of senior officers from throughout the New Zealand Army school system. The purpose of this panel is to prepare the students for the testing board itself. Each student presents a ten-minute solution to a tactical problem and defends his plan in a "murder board" atmosphere. He is then critiqued on his personal appearance, presentation, briefing format, tactical proficiency, and composure.

The testing board, which is appointed by the Army General Staff, meets for three days for the sole purpose of determining which officers will graduate from the course.

During the first day, the panel assesses each student's staff proficiency by examining all the written work he completed during the course. Additionally, faculty members brief the board on the TEWT problems that were used to evaluate the officer's tactical ability.

On the second day, each officer is observed on an individual outdoor TEWT. He is advised in advance only that the parent unit is an infantry bat-

talion. He is not told the field location, the phase of war, or the attachments. On site, he receives a written problem and is given two hours to conduct a reconnaissance, to deliberate, and to formulate a course of action. After that time, he presents to the panel, in ten minutes or less, his organization for battle and his outline plan. Following this briefing, the student then defends his plan for another ten minutes against questions from the board members.

On the third day the panel convenes for an indoor tactical problem at brigade level. Students, organized into three-man groups, present solutions in the same format they used for the outdoor TEWT. On both problems, each officer is evaluated on his knowledge of combined arms operations and of the tactical employment of units.

The Grade II Staff and Tactics Course is the final resident training program in the New Zealand Army officer education system. In its role as a "finishing school," it presents an intensive regimen in which the skills requisite for upper level command and staff are nurtured and evaluated.

As for the U.S. officers who attend, with rare exception, none has failed to place in the top 25 percent on the final testing board. This record can be attributed to the detailed screening process that led to their selection. The nominees are evaluated on everything from their military records to their advanced course performance and their civilian education. Additionally, the final four candidates receive an extensive grilling from a general officer who spends up to an hour with each nominee before making his decision.

The course, with its small class of carefully screened students and its intensive curriculum, is particularly valuable to infantry officers because of the orientation of its tactics training. It is certainly one of the most challenging courses of its kind in the world.

CAPTAIN MICHAEL W. ALVIS attended the New Zealand course in 1981. He is now assigned to the Military District of Washington and is scheduled to enter the Harvard School of Government in 1984. He is a 1973 graduate of Tulane University and earned a master's degree from Central Michigan University.

Machinegunners

MAJOR HARLIE R. TREAT

The machinegun is one of the most potent weapons in a rifle company's armory. It can support the rifleman with a heavy volume of close and continuous fire in both the attack and the defense, and it can engage distant targets with a heavy volume of controlled and accurate fire. The machinegun can deliver long range, close defensive, and final protective fires as an integral part of a unit's defensive fires.

But machinegun training, as it is conducted today, is clearly inadequate for these tasks. Many machinegunners assigned to units throughout the Army, for example, say that they have never fired an annual qualification course with the weapon and that few of them know how to employ it from a defilade position, how to prepare range cards, or how to engage targets during periods of limited visibility.

This is not a new problem. Many machinegunners in Vietnam had to be replaced because they simply did not know enough about the weapon to be confident in its reliability and its killing power. Many soldiers did not want the job, because they were not sure they could fire the gun accurately or take immediate action in case of a stoppage.

Clearly, we cannot afford such deficiencies in future wars, and some major changes in our machinegun training should be made — changes that would give machinegun crews confidence in the weapon and in their ability to use it.

At present, all infantry trainees are taught to be riflemen, automatic riflemen, grenadiers, Dragon gunners, and machinegunners. As a result, our infantrymen generally know some aspects of each of these jobs but do not know any one of them thoroughly. It is too much to expect that they should be able to master all of these weapons and to maintain their proficiency with every one of them.

But training machinegunners cannot be either easy or fast. Soldiers should go through at least 185 hours of individual instruction before they can be considered trained as machine-

gunners. They must learn and understand the nomenclature of the weapon, its assembly and disassembly, operation and functioning, maintenance, techniques of fire, and marksmanship.

A special training program of instruction should therefore be developed for machinegunners that would qualify them for their own particular military occupational specialty (MOS). Such a program now exists for the mortar and antitank MOSs. In other words, riflemen and machinegunners should be trained separately in their respective duties after they have all received training in such general subjects as first aid and map reading. Such a program would produce both riflemen and machinegunners who knew and performed their jobs far better than the infantrymen the present system produces. (The crew members of both the M60 and the caliber .50 machineguns should have this new MOS, since both of these weapons are organic to infantry and mechanized infantry battalions.)

If a machinegunner had his own MOS, he would be more likely to perform that duty in each unit to which he was assigned, instead of being a rifleman in Georgia, a grenadier in Germany, and a machinegunner in Korea, as happens under the present system. Proficiency in a task can increase only with experience and training.

Even with a separate machinegun MOS and a revised training program, something more is needed. If machinegunners are to be trained properly in rifle companies, they and their guns must be removed from the TOE of the rifle platoon and placed in the weapons platoon as a separate machinegun section. As long as they are organic to the rifle platoon, the machinegunners will be used to perform aggressor details, to fill in for riflemen who are preparing for rifle squad ARTEPs, and to perform countless other details that seem to be more important to platoon leaders than machinegun training.

Such training conflicts would not occur in the weapons platoon. Given a machinegun section, there could be no doubt in the weapons platoon leader's mind as to its mission, and the machinegunners would spend their training time preparing for that mission.

We reach the height of folly, in fact, when we assign machineguns to mechanized infantry platoons without assigning crews for them. The soldiers in rifle squads who are assigned to carry these guns do just that — carry them — and then complain about the heavy load. They complain, generally, because they know very little about the gun. In their view, it must not be very important because the Army does not value it enough to train and assign machinegun crews as it does with mortars and TOWs.

A few years ago, machinegun units were organic to infantry battalions, and from all reports, the Army then had machinegunners in the true sense of the word. Those soldiers knew their weapons inside and out; they could fire, maintain, and employ their guns expertly. Today, soldiers are expected to maintain their proficiency with several weapons that are more complex and that have greater capabilities than ever before.

It is time we faced reality. Being a machinegunner is a full-time job. A machinegunner needs his own MOS and a TOE that supports his training and the tactical employment of his weapon. We cannot allow such an expensive weapon with such great firepower to be placed in the hands of untrained or poorly trained crews. By implementing these suggested changes, the Army would take a giant step toward making sure it had proficient machinegunners when it needed them, and not just men to carry the guns.

MAJOR HARLIE R. TREAT, when he wrote this article, was assigned to the 24th Infantry Division at Fort Stewart. Previously, he led rifle and weapons platoons and commanded a company, all in airborne units. He is a graduate of Arkansas Polytechnic College.

ENLISTED CAREER NOTES

INFANTRY ANCOC

Under the dual promotion/ Advanced Noncommissioned Officer Course (ANCOC) selection criteria, soldiers selected for promotion to sergeant first class are automatically selected also to attend ANCOC, provided they do not fall into one of the following categories: Previously attended and graduated, attended but released from the course for academic deficiencies, or completed the non-resident course.

Enrollment in the non-resident course may be appropriate, for example, for soldiers who feel that attending the resident course would cause them financial strain or that family or other circumstances warrant their enrollment in the correspondence course.

Infantry soldiers who are considering the non-resident course should not wait until scheduled for the resident course before they apply. Unless an Infantry soldier has completed at least two thirds of the correspondence course before the resident course class starts, he will still be scheduled for that class.

Soldiers who have completed the correspondence course should ensure that their Official Military Personnel Files are updated to show that they are ANCOC graduates (code S on DA form 2A).

Recently, the guidelines on sending drill sergeants to ANCOC have been reinforced by TRADOC. Drill sergeants will not be sent during the "summer surge" period, which for most installations runs from May through September. Exceptions will be made on an individual basis but only after proper justification and with concurrence between the ANCOES cell at MILPERCEN and the Drill Sergeant Branch. In addition, drill sergeants will not attend ANCOC during their first year on drill status.

The Infantry ANCOC is one of the most professionally important and personally rewarding schools offered to sergeants in Career Management Field 11. It is therefore imperative that an NCO attend ANCOC at the earliest opportunity. Both the NCO and his chain of command should work hard to make this happen.

Infantry soldiers who have further questions concerning the Infantry ANCOC at Fort Benning, Georgia, may direct their inquiries to MILPERCEN, Infantry/Armor Branch, ATTN: DAPC-EPK-I/SFC White, 2461 Eisenhower Avenue, Alexandria, VA 22331, or call AUTOVON 221-9166/9425, commercial (703) 325-9166/9425.

ROTC ACTIVE DUTY SCHOLARSHIPS

Beginning in 1985, more than 10,000 second lieutenants will be commissioned annually through the Reserve Officer Training Corps. And eligible enlisted soldiers are being offered scholarships and early discharges to pursue their college education through the Army's ROTC program.

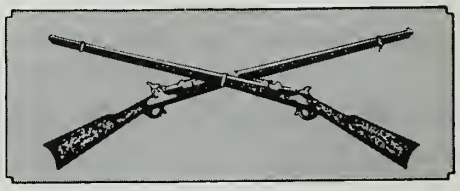
This spring, the Army will offer 200 two- and three-year scholarships to active duty enlisted soldiers. Those who are selected to receive these scholarships will be discharged in time to enroll in a college or university for the 1984-85 school year. Applicants must have served on active duty for one year and must have either one or two years of college credit, depending on the length of the scholarship they are seeking.

These scholarships cover the cost of college tuition and a flat rate for textbooks, laboratory fees, and other academic expenses, and they must be used at a school that offers ROTC. Scholarship winners also receive tax-free allowances of up to $1,000 for each school year.

Applicants for this program must meet certain requirements — none of which can be waived. They must be citizens of the United States and, according to law, at least 17 years of age before the award becomes effective. They must be under 25 years of age on 30 June of the year in which they will become eligible for commissioning. The age limit can be extended for each year of active duty served for up to four years. Applicants must meet minimum aptitude scores and must have letters of recommendation from their commanders as well.

After graduation, each of these soldiers will be expected to accept a commission in the Regular Army if it is offered. Otherwise, they will be commissioned in the U.S. Army Reserve. Scholarship winners must serve on active duty for four years or in the Reserve for eight years, depending on the needs of the Army.

The application period is 15 January to 15 April annually. For information on how to qualify, or for an application package, interested soldiers can write to Army ROTC Scholarships (AD), Fort Monroe, VA 23651.



OFFICERS CAREER NOTES

BRANCH CHIEF'S NOTES

As I begin my first year in MILPERCEN, I can honestly say I am excited. The Army today is dynamic and challenging, and personnel management is even more so. Regimental affiliation, COHORT, new emphasis on special operations, full implementation of CAS³, and force modernization are examples of an evolutionary Army. Each of these initiatives affects our personnel system.

In the past several months there have been some personnel changes at Infantry Branch. Our organization remains the same with one cell each for lieutenant colonels, majors, captains, and lieutenants, and another cell for Specialty Code 54. Pictures of the officers in each cell and their major duties are provided here. (Telephone numbers were listed in the September-October 1983 issue of INFANTRY, page 43.) Call us, or communicate with us in some other fashion. We need your input to do our jobs.

I look forward to the upcoming year and pledge that Infantry Branch will continue to provide the best possible personnel service.

LTC BRYAN SUTHERLAND

OER SUPPORT FORM

From our contact with Infantry officers around the world, it appears that DA Form 67-8-1 (Officer Evaluation Report Support Form) is not being used the way it was intended to be used.

A DA 67-8-1 should be completed and submitted to the rating chain for consideration before a DA Form 67-8 (Officer Evaluation Report) is written. Parts I-IIIb should be written and discussed at the beginning of each reporting period to be sure the rated officer and his rater concur as to what the significant duties and responsibilities of the officer's duty position are and that his major performance objectives are set. If the officer's duties or objectives change within the reporting period, the support form should be annotated accordingly.

In addition to clarifying responsibilities and objectives, the support form also gives the officer being rated an opportunity to provide a list of his significant contributions during the rating period. This information can be crucial to his senior rater, who may not have the opportunity to observe his duty performance on a regular basis. It helps for an officer to keep a log of his noteworthy accomplishments; if he does not, he may overlook some things that happened 11 or 12 months earlier in a fast-paced Infantry environment.

Each officer should submit a copy of his DA Form 67-8-1 to his rater at the end of a rating period, clearly identifying the things he did well and leaving nothing to recall.

The instructions for completing the form are printed on the back of it.

COMMAND TOURS SHORTENED

The length of a command tour for battalion and brigade commanders has been reduced from 30 months to 24 months. (Commanders in the rank of major general and above may extend a command tour for up to six months.)

This revised 24-month command tour will be implemented gradually so as not to create unnecessary turbulence. The following are the guidelines for putting the reduced tour length policy into effect:

- The normal tour length for officers who took command since 1 October 1982 will be 24 months.
- Battalion and brigade commanders who are scheduled to turn over their commands between now and the end of February 1984 will do so under the present 30-month policy.
- Officers who are scheduled to come out of command positions between 1 March and 30 September 1984 may be curtailed after 24 months at the discretion of a two-star commander but may not be programmed to relinquish command earlier than 1 March 1984.
- Officers currently in command will not be extended beyond 30 months unless that extension was approved previously.
- Short tour command will remain as currently established.
- All requests for exceptions to the new tour length policy will be considered by the commander of MILPERCEN.

Reducing the command tour length for colonels and lieutenant colonels from 30 to 24 months is intended to increase the number of command opportunities.

For further information about commands for colonels, anyone interested may call AUTOVON 221-7873; for lieutenant colonels, AUTOVON 221-0410.

RESERVE COMPONENT NOTES

SHORT PRE-COMMAND COURSE

Army Reservists who cannot attend the resident two-week Pre-Command Course (PCC) at Fort Jackson, South

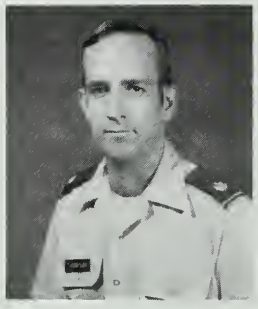
INFANTRY BRANCH TEAM

LTC Woody Held
LTC, Additional SC

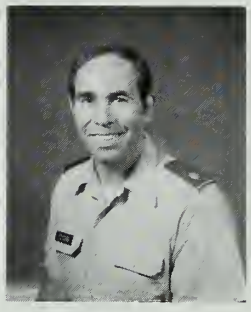
LTC Bryan Sutherland
Branch Chief

MAJ Terry Young
LTC, SC11, Command,
ROTC and DRC

MAJ Jim Gibson
LTC, Additional
SC54 Controller



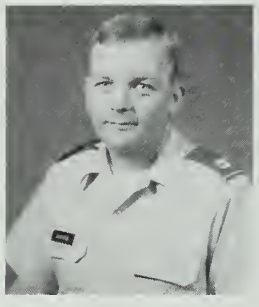
MAJ Russ Thompson
MAJ, SC11 and ROTC



MAJ Dick Strube
MAJ, Additional SC

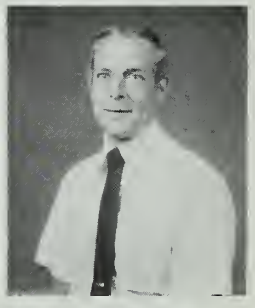
MAJ Chris Brown
MAJ and CPT, Additional
SC 54 Controller

CPT Jim Dezzutti
CPT, SC 11, Overseas,
Post Advanced Course



CPT Mike Cummins
CPT, Additional SC

CPT Steve Smith
CPT, SC11 CONUS
and Nominative



Ed Warren
CPT, LT Advanced Course

CPT Ron Thompson
LT, SC11

Elaine Martin
LT, SC11 Accessions

CPT Dave Freeland
Infantry Branch Rep
Ft. Benning, Georgia

Carolina, can now take advantage of a shorter training course developed by the Army's Training and Doctrine Command.

The PCC, taught by mobile training teams, has been presented to brigade and battalion commanders and commander designees in four U.S. Army Reserve Training Divisions.

The course can be structured to fit specific training needs and desires in support of unit training programs. The PCC instructional staff will help with the specific requirements.

Core leadership and command related subjects include IET policies, time management, communications, situation leadership, values and motivation, evaluating training, administrative eliminations, military law, stress management, performance management, and professional development for officers.

Early scheduling and coordination are necessary to ensure the availability of the course, and user organizations must provide funding (travel and per diem) for the mobile training teams.

For further information, contact the PCC staff at AUTOVON 734-6393/6394 or commercial (803) 751-6393/6394.

ACTIVE DUTY TOURS

U.S. Army Reservists who want a tour of duty with active units can now take advantage of the U.S. Army Reserve's "Limited Active Duty Program."

Implemented last June, the program is now restricted to captains with less than two years in grade or to promotable first lieutenants. Future expansion will extend eligibility to noncommissioned officers and to officers in the ranks of lieutenant through major.

Forty of the 200 spaces initially allocated to be filled by Army National Guard captains have been allocated to the U.S. Army Reserve.

USAR personnel in active Reserve status are eligible for the program to include members of the Troop Program Unit (TPU), the Individual Mobilization Augmentation (IMA) program, the Individual Ready Reserve (IRR), and the Active Guard/Reserve (AGR) program.

Applicants must have baccalaureate degrees and be qualified in certain specialties. The specialties being offered initially are 11, 12, 13, 21, 22, 25, 27, 35, 36, 37, 49, 51, 52, 53, 72, 73, 74, 91, 92, 95, 97.

Applicants must have a remaining two-year USAR obligation or must agree to serve at least two years in the Ready Reserve upon completion of the active duty tour. They must also agree to serve in a USAR TPU if there is a position vacant when they return.

Applications should be submitted on DA Form 160 (Application for Active Duty). TPU, IMA, and AGR applicants should forward their applications through command channels to the commander of the Reserve Component Personnel and Administration Center (RCPAC), ATTN: AGUZ-OPM-C. Members of the IRR must apply through their personnel management officers at RCPAC.

RCPAC will then review the applicants, make nominations, and forward them along with the individuals' military personnel files to MILPERCEN, which will conduct selection boards.

Officers selected will be ordered to active duty in an obligated volunteer status. Active duty tours with U.S. Army Europe for accompanied officers with dependents is 36 months; for unaccompanied officers, 24 months; and for unaccompanied officers (bachelors), 36 months. An extra 20 days is added to these tours to allow for preparation of replacements for oversea movement and for travel time. Tours of active duty within the continental United States will be for 36 months.

USAR officers who have questions concerning this program should contact their personnel management officers at RCPAC.

BOOK REVIEWS

Recently, we received a number of fine publications from the Combat Studies Institute of the Command and General Staff College at Fort Leavenworth. Among them were these:

• LEAVENWORTH PAPER No. 6, "Soviet Night Operations in World War II," by Major Claude R. Sasso. This paper provides an overview of the Soviet night operations conducted on the Eastern Front and in Manchuria. The author stresses the ability of the Soviet Army to learn from its mistakes, to bounce back from tremendous losses, to dedicate itself to careful preparation and realistic training, and to encourage "bold but reasonable initiative on the part of commanders."

• CSI RESEARCH SURVEY No. 1, "Amicicide: The Problem of Friendly Fire in Modern War," by Lieutenant Colonel Charles E. Shrader. The author examines the tragedy of casualties that were accidentally inflicted on American troops by American firepower during our last four wars — World War I, World War II, Korea, and Vietnam. He draws tentative conclusions about the causes and effects of "amicicide" and offers recommendations to those individuals who wish to continue to study the subject.

• CSI REPRINT, "Principles of War: A Translation from the Japanese." This publication provides the U.S. Army officer with a different perspective on land warfare. Historical examples are used throughout the text to illustrate specific tactical principles. The basic publication is required reading for all Japan Ground Self-Defense Force officers, and it is studied by Japanese officers in preparing themselves to take the highly competitive entrance examination for the Japanese Command and Staff School. The CSI has added a selective bibliography of military history titles related to the historical examples cited in the text.

A number of other interesting publications have come to us in recent months. Among them were these:

• THE IMAGE OF WAR, 1861-1865: VOLUME FOUR, FIGHTING FOR TIME. General Editor, William C. Davis. A Project of the National Historical Society (Doubleday, 1983. 464 Pages. $39.95). This fourth in what is planned to be a six-volume photographic history of the Civil War is well up to the high mark set by its three predecessors. Hundreds of photographs — many never before published — complement concise narratives by such qualified historians and respected writers as Herman Hattaway, Norman C. Delaney, Rowena Reed, Dee Brown, Harold D. Langley, and Frank L. Byrne.

The subject matter is diverse — the fall of Vicksburg and Port Hudson; the siege of Charleston; the cavalry, both North and South; the Confederate commerce destroyers; the sailor's life; prisons and prisoners; and the Civil War cameramen and how they practiced their craft.

For the student of the Civil War, for the military historian, this series — as it develops — is an absolute must for study, for perusal, or just for the sheer pleasure of knowing that such an enormous undertaking is being handled so well.

• UNITED STATES STRATEGY TO COUNTER DOMESTIC POLITICAL TERRORISM, by Colonel James B. Motley, United States Army (National Defense University, 1983. 139 Pages). Colonel Motley was a Senior Research Fellow at the National Defense University when he completed this study. It is a handy elementary primer that sets out the author's view on the nature of the threat of political terrorism in the U.S., and on how the U.S. might combat that threat.

• CADENCES: THE JODY CALL BOOK, NUMBER 1, edited by Sandee Shaffer Johnson (Daring Press, 1983. 152 Pages. $3.95, Paperback). The author is the wife of a serving Army medical doctor and is now living in Germany. A free-lance writer, photographer, and artist, she has had a long-term interest in cadence calls and has been collecting them for several years. This is one result of that interest, a collection of new cadences and older chants, with a brief history of cadence calls and their development. Eventually she hopes to bring out other editions. We'll let you know when she does.

• THE PURSUIT OF POWER, by William H. McNeill (University of Chicago Press, 1982. 405 Pages. $20.00). The author is a well-known historian and a prolific writer. In this book he demonstrates most convincingly how military, political, and economic establishments have worked together through the centuries to determine man's progress. In some eras, the military establishment dominated the scene; in others, the political or economic dominated, and the military services were pushed into the background. He feels we live in dangerous times, but he believes that if we study the past we "may reduce the discrepancy between expectation and reality, if only by encouraging us to expect surprises" because "the future, like the past, depends upon humanity's demonstrated ability to make and remake natural and social environments within limits set mainly by our capacity to agree on goals of collective action."

• CARBINE AND LANCE: THE

STORY OF OLD FORT SILL, by Colonel W.S. Nye (University of Oklahoma Press, 1983. 384 Pages. $14.95, Paperback). This is a revised and enlarged version of the 1969 edition of Colonel Nye's well-regarded history of Fort Sill. It now includes 64 pages of illustrations printed from new plates and three new maps.

• CROSSROADS OF MODERN WARFARE, by Drew Middleton (Doubleday, 1983. 321 Pages. $17.95). The author, the military affairs correspondent for the *New York Times,* nominates sixteen 20th century battles — beginning with Tsushima and ending with the Yom Kippur War — as being decisive battles: to him, they altered the course of history and changed the nature of war. He does not expect everyone to approve his choices — and they will not. His battle descriptions are concise but interesting, and they can be used to start some fine discussions.

• AMERICAN ARMY LIFE, by Colonel John R. Elting (Scribner's, 1982. 328 Pages. $35.00). A well-known U.S. military historian, Colonel Elting says that his book "is not a book for professional military historians ... It concerns itself with battles, campaigns, and great captains only incidentally." He concentrates, therefore, on the U.S. soldier's origins, the conditions under which he has served, and his many peacetime contributions. This is a fine effort in every respect — narrative, photographs, illustrations — and one worth any infantryman's time.

• AMERICANS AT WAR: FROM THE COLONIAL WARS TO VIETNAM, by W.J. Koenig. A Reprint (Frederick Fell, 1982. 352 Pages. $29.95). This book was first printed in 1980. In it the author, a military analyst with the United States Government, concentrates on one major point — "the experiences Americans have had in their wars shaped a distinctive American approach and attitude to war, military policy, and national security and then perpetuated these." Accordingly, he focuses his narrative on such matters as why Americans have taken up arms, their notions of how wars should be fought, their conceptions of strategy and tactics, and the evolution of American military policy and institutions. His narrative, which is supplemented by a large number of excellent illustrations, complements Colonel Elting's book quite nicely.

THE BATTLE FOR THE WEST: THERMOPYLAE. By Ernle Bradford (McGraw-Hill, 1980. 255 Pages. $12.95). Reviewed by Leroy Thompson, Festus, Missouri.

Ernle Bradford has the rare ability to combine scholarship with readability, and he does an excellent job of it in this book.

Bradford not only discusses the battle at Thermopylae, he also writes about the battles at Salamis and Plataea. And on a broader level, he also deals with the strategic and diplomatic problems that faced both the Greeks and the Persians.

Often using World War II analogies, Bradford gives even the reader with little or no prior knowledge of Greek history a good understanding of the events that led up to these decisive battles that may well have changed the course of history. He also displays an excellent knowledge of the geography of the area, and this permits him to analyze the logistical problems the armies faced, particularly the Persian host led by Xerxes.

This book is highly recommended as an interesting and informative history of one of the most critical campaigns in military history and for its insights on the Spartan, Athenian, and Persian military systems.

FROM MUSKETS TO MISSILES: POLITICS AND PROFESSIONALISM IN THE CHINESE ARMY, 1945-1981. By Harlan W. Jencks (Westview Press, 1982. $25.00). Reviewed by Lieutenant Colonel C.T. Guthrie, United States Army.

This book is a welcome addition to the available scholarly literature concerning China, for it provides a comprehensive analysis of the People's Liberation Army (PLA) and the role it plays in Communist China's civil-military affairs.

Harlan Jencks draws on his own scholarly experience and his background as a Reserve officer in the United States Army to present this thoroughly researched and fully documented discussion of the PLA from its beginning during the Chinese civil war. Central to his study is an examination of military professionalism within the PLA officer corps.

Jencks analyzes Soviet influence on the structure and internal organization of the PLA, discusses how the PLA interacts with other sectors of Communist China's society, and suggests that there is a "generation gap" in the present officer establishment — a gap that is formed by the younger officers with limited or no combat experience on one side and the aging senior officers who are veterans of China's wars on the other.

The book is not esthetically pleasing, but it is an important contribution to its field of interest. It should be required reading for the professional soldier.

GENERAL JOHN M. PALMER, CITIZEN SOLDIER, AND THE ARMY OF A DEMOCRACY. By Irving B. Holley, Jr. (Greenwood Press, 1982. 814 Pages. $35.00). Reviewed by Benjamin F. Gilbert, Professor of History, San Jose State University.

The first 24 chapters of this book comprise General Palmer's memoirs and cover his boyhood days in Springfield, Illinois, his experiences as a West Point cadet, and his early army career. Palmer wrote the first 10 chapters in his own words before his health began to decline. Chapters 11 through 24, though based on Palmer's rough drafts and extended notes, were edited by Professor Holley. The rest of the book (two-thirds of it) was entirely written by Holley and treats Palmer's life from 1917 to 1955; accordingly, it is biographical rather than autobiographical.

Palmer graduated from the United

States Military Academy in 1892. His military career spanned an age that witnessed the transformation of the small regular army of the Indian frontier days into the complex institution it became by the end of World War II.

His first assignment was with the 15th Infantry at Fort Sheridan, then a new post on Lake Michigan about 30 miles north of Chicago. When the regiment went to Arizona and New Mexico in 1896, Palmer was assigned to Fort Grant. Although he was an infantry officer, he asked to be enrolled on a cavalry scouting roster.

For a brief time in 1898 Palmer served as professor of military science and tactics at the University of Chicago and then took part in the campaign in Cuba. After the war with Spain, he saw service in China during the Boxer Rebellion.

Returning home, he was assigned to West Point, where he remained for five years teaching chemistry. In 1906 he went to the Philippines and became governor of the Lanao District on Mindanao. When he returned to the States this time, he attended the Line School and Staff College at Fort Leavenworth. This was immediately followed by another assignment to the Philippines, where he commanded a regiment on Corregidor Island.

In 1916 Palmer was assigned to the General Staff in Washington and helped to shape the conscription act of 1917. During World War I, General John J. Pershing selected Palmer to be his chief of operations, a job he held until the final month of the war when he assumed command of an infantry brigade during the final American offensive.

After the war, Pershing made Palmer his special advisor on Capitol Hill where he played an important role in drafting the Defense Act of 1920. As the country returned to a policy of isolation, Palmer retired to write books and articles on military policy, hoping to arouse public support for the peacetime training of citizen soldiers. During World War II, Palmer served as an "elder statesman" on General George C. Marshall's staff. He retired for a second time when the postwar effort to embrace universal military training was defeated.

To Palmer, the primary way to insure a democratic military establishment in this country was to keep the regular establishment small and to place the utmost reliance on citizen soldiers. He believed strongly that a people's army could forestall caesarism at home and circumvent any imperial or aggressive war.

The book is generously illustrated with photographs of Palmer's life from his days at West Point through his service during World War II. The biographical chapters (25-53) have notes with references. A section on sources lists and describes the manuscripts that Holley consulted as well as the names of individuals he interviewed.

The book should be of interest to all those who are concerned with the problem of adequate national defense in the modern world. At the same time, it details the career of an important military personality.

THE PEENEMUNDE RAID, by Martin Middlebrook (Bobbs-Merrill, 1982. 265 Pages. $14.95). Reviewed by Lieutenant Roy F. Houchin II, United States Air Force.

Martin Middlebrook here presents a thoroughly detailed account of the precision raid conducted by the British Royal Air Force on 18 August 1943 on Peenemunde, Germany, the principal German research and testing facility for rockets and missiles. To a lesser degree, he also tells of the intelligence effort the Allies mounted to discover the kind of work that was being carried out at Peenemunde and the story of Germany's rocket development. He leaves little to the imagination, for he uses the results of hundreds of interviews to present a remarkably accurate and graphic account of what happened on that fateful day. The feelings and emotions of the people who were involved — in the air and on the ground, military and civilian — have been captured for the reader to experience.

Middlebrook also includes several appendixes, numerous maps and photographs, and statistics concerning the results of the raid and the aircraft losses.

This is a unique look at RAF operations during World War II, and it should be of considerable interest to those interested in the Peenemunde operation.

STONEWALL JACKSON AND THE AMERICAN CIVIL WAR, by George F.R. Henderson. Abridged by E.B. Long (Peter Smith Publishers, 1983. 576 Pages. $10.00). Reviewed by Dr. Mike Fisher, University of Kansas.

To his men he was "Stonewall," an angular, tattered figure ever in the vanguard of his swiftly advancing columns. To his enemies he was "that devil Jackson," able to defy and to mystify virtually any Union command.

Infantry leaders at all levels may continue to profit and learn from the study of the great Civil War commander, the Confederate General Thomas J. Jackson. And nowhere does the portrait of this great soldier unfold with greater clarity and understanding than in Henderson's epic analysis. First published in 1898, the book was reprinted in 1968. In this, the most recent edition, the text has been clarified where necessary and maps have been added.

Jackson's life provides the substance of the American dream. He was left an orphan at an early age and endured the hardships of living on the Virginia frontier. Commissioned in 1846, he served with distinction in the Mexican War. An unhappy period as a peacetime soldier and astrology professor followed. Then, in 1861, the event found the man.

Jackson accepted a commission in the Virginia militia, where his iron discipline and unremitting will brought him quick promotion and added responsibility. On Henry Hill in 1861, his 1st Virginians stood like a stone wall, turning a possible Confederate defeat into victory.

His valley campaign during the following spring confused and befuddled a superior Union force. And at Antietam his will resisted the desire of his fellow officers to give way before the Union attacks.

All this and more fill the pages of this outstanding study. Modern infantry leaders will see Jackson's battlefield decisions from eye level. Henderson understood that most commanders operate in the fog of war in which past experience, technical competence, learned premonitions, and luck often fill the gaps in needed information.

Jackson's ability to lead and to operate when others faltered set him apart from all but the greatest infantry leaders. He instilled in his men a resolution and a will that made them some of the best infantrymen ever to lay cheek to stock. Nowhere else does the picture of Jackson and the events that shaped him and that he helped to shape appear with greater precision and drama.

SKORZENY: HITLER'S COMMANDO, by Glenn B. Infield (St. Martin's Press, 1981. 266 Pages. $15.95). Reviewed by Alexander S. Birkos, Mount Shasta, California.

Glenn Infield, the author of several books on World War II and the Nazi era, here presents a controversial and often elusive picture of Otto Skorzeny, as a man, as a military commander, and as a postwar unreconstructed Nazi. His book is not only fascinating to read, his narrative is a piece of excellent research that is based on a close scrutiny of documentary materials and many interviews with Skorzeny himself and with Skorzeny's contemporaries. (Skorzeny was interviewed before his death in 1975.)

As a commander of a special SS commando unit (*Jagdverbande* 502), Skorzeny had many of the attributes a good leader of combat troops should have. He was meticulous and demanding in the training of his men, clever in his tactical methods, closely observant of his enemies to determine their strengths and weaknesses, and never discouraged by obstacles. All of these good qualities manifested themselves in three of his most famous missions: the rescue of Benito Mussolini, the kidnapping of Admiral Miklos von Horthy (the regent of Hungary), and his infiltration behind the U.S. lines during the Battle of the Bulge.

Skorzeny the man was less admirable. To the end of his days he remained loyal to the Nazi cause and to political terrorism. He was ruthless and brutal in hunting down the leaders of the Danish underground movement as well as the German officers who were connected with the 20 July 1944 attempt on Adolf Hitler's life.

While some writers have treated Skorzeny with a touch of the romantic, Infield certainly is under no illusions about his subject. His assessment of Skorzeny is probably the best one yet made: "Hitler left a legacy of violence to the world; Skorzeny made certain it was preserved."

ARAB-ISRAELI WARS, by A.J. Barker (Hippocrene Books, 1980. 176 Pages.) Reviewed by Lieutenant John J. McGrath, United States Army.

For more than 30 years the conflict between the state of Israel and her Arab neighbors has made the Middle East the most volatile area of the world. For this reason, and because the contending sides have been armed by competing superpowers, the Arab-Israeli conflict has been of special interest to military commentators.

A.J. Barker, a retired British Army officer, previously has written on the 1956 and 1967 Arab-Israeli wars and on numerous other military subjects. In this book he gives an overview of the Arab-Israeli conflict from 1947 to 1974. His greatest emphasis is on the 1967 and 1973 wars. His book has a large number of photographs (most of them from Israeli sources) and a number of maps, which could have been of higher quality.

Barker writes from a decidedly pro-Israeli viewpoint. In fact, his admiration for the Israeli soldiers colors his commentary and lessens its value.

Still, his book should be of interest to the student of Middle East history as well as to the student of military history. It gives a good background of the whole conflict. There are other books, though, that contain more detailed accounts of the various wars, and these should be considered by the more serious student.

RECENT AND RECOMMENDED

THE VIETNAM WAR: THE ILLUSTRATED HISTORY OF THE CONFLICT IN SOUTHEAST ASIA. Updated Edition. Edited by Ray Bonds. Crown, 1983. 256 Pages. $19.95.

THE UNKNOWN PATTON. By Charles M. Province. Hippocrene Books, 1983. 224 Pages. $20.00.

THE ON-YOUR-OWN GUIDE TO ASIA. Revised Sixth Edition. Edited by Terry George. Tuttle, 1983. 444 Pages. $6.95.

WORLD INDEX OF STRATEGIC MINERALS: PRODUCTION, EXPLOITATION AND RISK. By D. Hargreaves and S. Fromson. Facts on File, 1983. 300 Pages. $95.00.

NAVAL WARFARE: AN ILLUSTRATED HISTORY. By Richard Humble. St. Martin's Press, 1983. 304 Pages. $24.95.

THE ISRAELI ARMY: VOLUME I, 1948-1973. A Reprint. By Edward N. Luttwak and Daniel Horowitz. Abt Books, 1983. 398 Pages. $25.00.

NON-NUCLEAR CONFLICT IN THE NUCLEAR AGE. Edited by Sam C. Sarkesian. Praeger, 1980. 404 Pages.

COUNTRIES OF THE WORLD AND THEIR LEADERS YEARBOOK, 1983. Two Volumes. Gale, 1983. 1,492 Pages. $66.00/Set.

THE DEFENSE OF SMALL AND MEDIUM-SIZED COUNTRIES. Paper Number 17, 1982. Center for Strategic Studies, Tel Aviv University. 58 Pages, Softbound.

THE SUPERPOWERS AND THE HORN OF AFRICA. By Shimshon Zelniker. Paper Number 18, 1982. Center for Strategic Studies, Tel Aviv University. 60 Pages, Softbound.

FROM THE MILITARY TO A CIVILIAN CAREER. By Ron E. Petit. Maron Publications, 1982. 146 Page. $8.95.

HOW TO MAKE WAR: A COMPREHENSIVE GUIDE TO MODERN WARFARE. By James F. Dunnigan. Morrow, 1983. 443 Pages. $7.95, Softbound.

GUNS, MORTARS, AND ROCKETS. By J.W. Ryan. Brassey's Battlefield Systems and Technology, Volume II. Pergamon Press, 1982. 227 Pages. $13.00, Softbound.

INFANTRY LETTERS

MORE STRONG FEELINGS

I read with interest Lieutenant Colonel Henry G. Gole's article "A Personal Reflection on Leadership," which appeared in the September-October 1983 issue of INFANTRY (page 12). I, too, hold a number of deep emotional beliefs about what it means to be a soldier and I, too, have strong feelings about *our* Army. But I was distressed to find that one of my fellow officers sees our Army's leadership as "plastic," and that he has in his mental processes confused the ideas of management and leadership.

Unlike my contemporary, I believe that the quality of *our* Army and its leadership has never been higher. Having recently commanded a combat ready Infantry battalion in a combat ready brigade and division, I am proud of and confident in our soldiers and our leadership.

In my career I have been assigned to instructor duties that involved teaching modern management techniques, and I have served in duty positions that required the use of management skills. I know that the effectiveness of our management has been improved by modern techniques; I also know we have a long way to go.

While I view with concern those officers who use the issues of efficiency and effectiveness for their own professional gains, I can neither accept Colonel Gole's view of the serious defects in our Army nor believe in the failure of all of its leadership. I, too, lament that there are leaders who fail to set the example and fail to care for their men. But, please, let us not blame individual human frailties on modern management, and let us not try to impeach the Army or the nation for the wrongs of a few.

Our Army is a large, complex, modern fighting machine. The functional and administrative parts of this machine require more management than leadership, and its operational parts demand mostly leadership with some management.

Colonel Gole has aired his disdain for his fellow officers, displayed his learned letters and, unfortunately, demonstrated his own confusion.

JOHN R. CORSON
LTC, Infantry
Fort Benning, Georgia

COTTONBALERS

Catching up on some back issues of INFANTRY, I came across Major Daniel Raymond's "A Cottonbaler" (January-February 1982, page 10), written in praise of the 7th Infantry Regiment. When I joined the 7th Infantry in 1944 on the Anzio beachhead as a 19-year-old replacement rifleman, I, too, felt the pride he expressed in being part of a unit that goes back to Andrew Jackson and the Battle of New Orleans.

But as I read his roll call of the distinguished history of the Cottonbalers, I was amazed to discover that he has us crossing the Channel and fighting through the hedgerows, presumably in Normandy. In fact, after the capture of Rome (4-5 June 1944), we joined the Seventh Army, spent two months training near Naples, landed on the French Riviera on 15 August, advanced rapidly to the Vosges Mountains, participated in the capture of Strasbourg (November 1944), and then fought a tough winter campaign in the Colmar Pocket (January-February 1945), for which the Third Division (of which the 7th Infantry was a part) received the French *croix de guerre*. After that it was on to Germany!

I left the U.S. Army in 1946 and reorganizations since may have added new elements to the pedigree of the 7th Infantry Regiment. I will appreciate an editor's note to set either me or the record straight.

EARL A. REITAN
Professor of History
Illinois State University
Normal, Illinois

EDITOR'S NOTE: As far as we can determine, Dr. Reitan is right.

VARY TOC LAYOUT

I read with interest the related articles on headquarters company operations in your May-June 1983 issue ["The HHC Commander," by Captain Walter J. Sutterlin (page 9), and "The Headquarters Commandant," by Captain Kim Stenson (page 10).] Captain Sutterlin's biographical sketch caught my eye because I served as communications officer in HHC, 3d Battalion, 16th Infantry, before it became 3d Battalion, 6th Infantry — his company. That was 30-odd years ago.

Captain Stenson's piece struck me for a different reason — the TOC sketch and the words that went along with it. From 1975 until 1981 I served as an Army civilian R&D manager in the Camouflage Laboratory here at the U.S. Army Mobility Equipment Research and Development Com-

We welcome letters to the Editor on any subject that has been treated in our magazine as well as on issues of general interest to our readers. All letters are subject to editing and possible abridgment.

mand. My task, in a broad sense, was to help make it easier for tactical units to avoid detection by hostile reconnaissance. One thing that has come out clearly from research in avoiding detection is the necessity to avoid repetition, or sameness, in tactical dispositions.

I have no objection to including a sketch in a manual or an SOP, but the words that go with it should say, first, that it is only a sample, and second, that variation of arrangement from move to move is one key to survival. Captain Stenson, in failing to make this point, is inviting the cross hairs of a hostile sight to visit the bull's-eye of his "double perimeter."

A.T. SYLVESTER, II
Fort Belvoir, Virginia

HEADQUARTERS COMMANDANT

I read with interest Captain Kim Stenson's article, "The Headquarters Commandant," (INFANTRY, May-June 1983, page 10). I observe a mechanized infantry TOC in operation for two weeks of every month at the National Training Center, and his statement "Army doctrine on the subject . . . is sadly lacking" was right on the mark.

Two of the points made in the article have proved to be common problems for our task forces. First, movement by echelon is seldom executed properly, if at all. Each echelon must be autonomous if continuity of operations is to be achieved. Second, a dismount point is seldom enforced. Frequently, an outstanding position and good camouflage are wasted because a parking lot is allowed to form near the TOC entrance.

I disagree, however, with several points. Captain Stenson recommends a TOC site "two to five kilometers behind the battalion's front lines." FM 71-2 specifies "two or three terrain features behind the leading company team" in an attack and farther in the defense. There is no advantage in communications at two kilometers that offset the security offered at seven to ten kilometers. Of course, this interval is terrain dependent, and at Fort Irwin these doctrinal distances tend to be stretched, but even in rolling European terrain, two to five kilometers is too close.

Rear area security is regularly tested at the NTC. Concertina wire, even at Captain Stenson's recommended 35 meters, provides no defense against an RPG-7 or even a hand grenade. In reality, it becomes merely an administrative aid to control foot traffic. Similarly, TOC passes provide no real security since an enemy is not likely to ask for one; they become an unnecessary administrative burden and a waste of manpower. In fact, the entire concept of an "inner perimeter" is questionable. Even if a unit has the luxury of enough soldiers to man this perimeter 24 hours a day, and most don't, the soldiers can be more profitably employed on the "outer" perimeter, or in my opinion the only legitimate one.

Finally, the concept of using a rifle squad from one of the companies contradicts FM 71-2, which calls for the main CP personnel in the TOC security role. TOC security must be accomplished without sacrificing the combat power of the units.

COLLIN A. AGEE
1LT, MI
Fort Irwin, California

CLEARANCE BEFORE PUBLICATION

Commendations on your informative article "Writing for Publication" in your September-October 1983 issue (page 20). The article did an excellent job of outlining the mechanics of professional writing.

At the same time, though, it would have been good to include a reminder of clearance requirements as prescribed in Chapter 4 of AR 360-5, Change 1. The Army encourages professional writing, but review and clearance are applicable for certain writings. Anyone preparing to write for publication, therefore, should be familiar with the regulation. The easiest way for a writer to do this is to contact his local Public Affairs Office.

Again, "Writing for Publication" helped to encourage soldiers to try their hand at professional writing, a most important initiative in the development and exchange of thought among members of the military profession.

JAMES W. HILL
Office of the Chief
of Public Affairs
Department of the Army
Washington, DC

DECEPTIVELY SIMPLE

My compliments to Captain Barry E. Willey on his excellent article "Where's the Commander?" [July-August 1983, page 7.] He is quite right to emphasize that careful thought and experience are necessary for a commander to place himself "where he can best control his unit." The statement of the requirement is deceptively simple; the execution of the task is much more difficult.

In addition to his main thesis, Captain Willey makes passing reference to two very critical points that I would like to reinforce. The first of these is that the commander must trust and use his subordinate leaders instead of barging in to take over for them. This allows the subordinate to perform his mission while the commander remains free to do his own job. (Notice that this does not preclude checking. Proper checking could have resulted in the early detection of the problem in the "navigation error" situation.)

The second point is that leaders also get sleepy — and therefore ineffective. The "three days without a wink of sleep" FTX is just bad training. Leaders at all levels need to pace themselves and their units so they can function over extended periods of time. The commander must train his

unit and his subordinates well enough so that he can trust them to continue to function while he grabs some sleep.

Being professional requires the development of excellence in many different areas. Study, thought, and experience are required. By sharing his "war stories" with us in a thoughtful way, Captain Willey has contributed to the growth of our professionalism. I encourage him and others to continue the process through the formal and informal sharing of ideas and experiences.

JOHN H. VAN VLIET, III
MAJ, Infantry
Fort Benning, Georgia

ADVICE TO OFFICER CANDIDATES

In May 1960, as a National Guardsman, I was welcomed to the Infantry Officer Candidate School headquarters at Fort Benning, Georgia. Almost three months later, two weeks short of completing the course, I elected to take a medical disqualification. In short, I quit! And although civilian life has been good to me, I've regretted it ever since — especially lately when I have seen my contemporaries retire as officers.

My heart has always been with the military services. I am writing this, therefore, in the hope that others may learn from my mistakes.

The medical problem, though legitimate, was not my only problem. First, although I had had three years in the active Marine Corps during the Korean conflict with 18 months overseas and a two-year stint in the 85th Special Infantry Marine Reserves, plus three years in the Michigan Army National Guard as an Infantry noncommissioned officer, I went to OCS with the attitude that it would be a piece of cake.

The physical training was not difficult. And as a 27-year-old I aced all the weapons training and shot third with the M-1 Garand (high expert) in the entire Student Battalion. I served in all command positions with ease and with distinction as student executive officer.

But my attitude was bad. For example, when the so-called "best man in the outfit" walked off the drill field and then off the post because a Tactical Officer in a fit of pique screamed that he wouldn't serve in combat with the Candidate, my sympathies were with the Candidate. After all, I thought, he had been a combat wounded soldier in Korea and just wouldn't take the deriding from a non-combat captain.

In another incident, I was reprimanded for breaking a vow of silence on the map reading course. (I warned a fellow Candidate to watch his step because I had spotted a large black snake stretched across a two-track road in the swamp. But this was near the river where critters of that ilk were common, and I should have kept quiet.) But I took the reprimand as a personal affront and started to get homesick.

In another incident when a fellow Candidate fainted in ranks from the 95-degree heat and I adjusted my rifle sling to put the piece over my shoulder and help him, it seemed like the entire chain of command came down on me. Still another time, I deliberately stepped on an Airborne Tactical Officer's spit-shined boots just to see if he would back up his yelling with physical action. Another reprimand. And extra duty was the order of the day for me.

My letters home were filled with dislike for the petty discipline. (Sometimes I thought a swift kick would have been more military and more mature.)

Looking back, it seems that I may have expected special favors for having served my time on active duty when our ranks were riddled with "draft dodgers," mostly just out of college, who chose the Guard or Reserve rather than go on active duty. And I think the daily harassments wore on me and my wife and two children until a job as an insurance investigator back in Muskegon, Michigan, began to look mighty appealing.

Soon we were spending more and more time in the swamps on maneuvers and I had some allergies that caused minor wheezing upon heavy exertion. My Tactical Officer advised me to hang in there, saying that there were many jobs other than Infantry jobs in the Army Guard. But with only exam week and check-out week remaining, I made the decision to quit.

The relief of leaving OCS was tempered with a healthy dose of shame when I saw my class double timing to a lecture with another Candidate in my place as Platoon Commander. I was on my way off post at the time with the other sick, lame, and lazy. I was not to be an officer.

I feel pride still at having attended the course, but I wish my motivation to complete it had been higher. The military in general and the Army in particular gave me many opportunities, including a chance at OCS, but I blew it.

So my advice to present-day Candidates is, if you want to be an officer, hang in there and do what you have to do. Don't quit!

JOHN A. JOHNSON, JR.
East Grand Rapids, Michigan

BITTERSWEET

The recent news of the improved M16 rifle was bittersweet. No doubt the improvements in accuracy, lethality, range, and durability, while long overdue, will be welcomed by Infantrymen in particular. But the Army's plan to replace our current rifles through attrition is not such good news, and it fails to capitalize on the improvements to the weapon at the level where they would provide a significant increase in effectiveness and be the most appreciated — in the rifle squad.

Since most of the Army's rifles are primarily self-defense weapons, it would be both impractical and unnecessary for us to follow the Marine Corps' lead and replace all our rifles at once. This is not the case, however, in

the infantry, where the predominant weapon system remains the rifleman. Correspondingly, we owe him the very best rifle we can provide.

It does not seem impractical, therefore, to suggest that at the first opportunity we scrub the Army budget to find the money to equip our Infantry battalions, Special Forces units, and Infantry Training Brigades with the improved M16.

I further recommend that this become a force modernization issue with the Chief of Infantry.

C.D. McMillin
LTC, Infantry
MacDill AFB, Florida

MORTAR PLATOON LEADER

The proper employment of a mortar platoon requires a high level of knowledge and experience on the part of its leaders. The problem is that neither the platoon sergeant nor the platoon leader stays around long enough to make the kind of contribution they should be able to make.

A sergeant first class mortarman is a highly trained and qualified technician who has either attended the Infantry Mortar Platoon Course or the Advanced Noncommissioned Officer 11C Course — in some cases, both. He has a vast knowledge of and a background in the techniques of employing a mortar platoon. Over the years he has devoted many hours to training and preparing his platoon for the ever-changing situations they may encounter in combat.

The platoon leader, when he takes over the mortar platoon, has attended IOBC and maybe the Mortar Platoon Course. But in most cases his tactical training has been oriented toward making him a rifle platoon leader. Although the mortar platoon's mission is to support the rifle platoons, its tactical employment is, of necessity, different, because its weapons and its soldiers' individual skills are different. As a result, when a lieutenant is given responsibility for a mortar platoon he usually comes into it with only limited knowledge of the equipment, operational procedures, and tactical employment of this type of platoon. It takes time for him to learn these things, but all too soon he usually moves on to other jobs in the battalion.

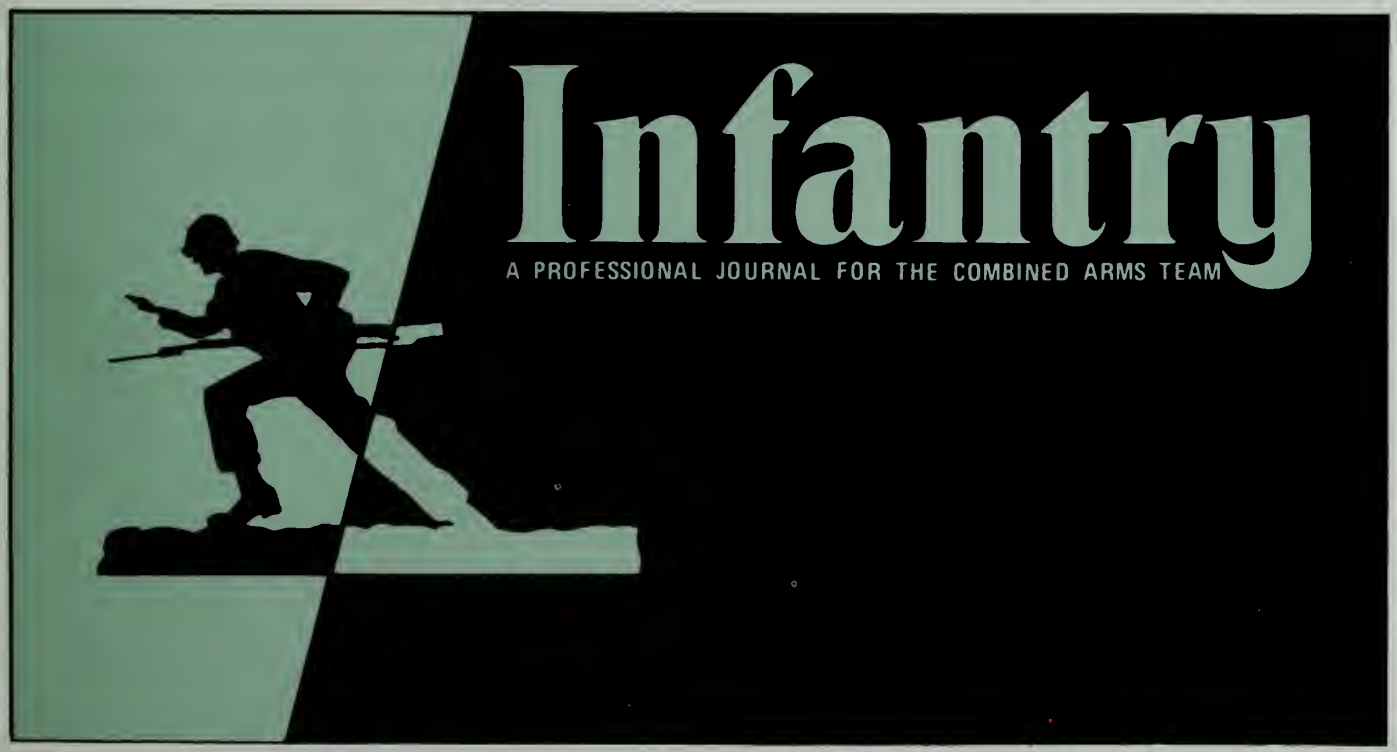
The platoon sergeant, too, moves on. He is promoted — either to master sergeant for assignment to a staff position or, in some cases, to first sergeant for assignment to take over a company. Either way, he is lost to the mortar platoon. Some will argue that his knowledge and experience are still there in the battalion to be drawn upon at any time. But he will have to make the same commitment to his new job that he made to his mortar platoon, and this will leave him little time to help the mortar platoon.

So why not keep the 11C40 in the platoon after he becomes a master sergeant? Quite a few first sergeants and master sergeants have said they would have liked to stay on but that it would not have been good for their careers.

There is a solution, though. If we created a warrant officer slot in the mortar platoon, we could offer these master sergeants the option of staying on as mortar platoon leaders. This way, we could keep an expert in the mortar platoon, an individual who would require very little job training. All he would need would be perhaps a short course related to the responsibilities of a warrant officer.

There is only a little difference between a warrant officer's pay and a master sergeant's pay, and the quality of such a person at platoon level would offset this difference.

This is not meant to imply that a noncommissioned officer can do a better job of leading a mortar platoon than an infantry lieutenant, but he is



likely to bring a higher level of technical competence to the job for a longer period of time.

Some NCOs in mortar platoons will still want to go on to become first sergeants in the companies, and they should do so, of course. But those who want to can stay on to lead their platoons as warrant officers.

SSG ROBERT O'DAY
Fort Benning, Georgia

FITNESS BADGE

I have read Captain Michael T. McEwen's article "A Fitness Badge" (INFANTRY, July-August 1983, page 9) and am surprised that more people do not know that such a badge already exists for American servicemen in Europe. It is the German Military Proficiency Badge, which closely parallels the one the author proposes.

The requirements for the award are the successful completion of the shot put, long jump, 100-meter dash, 5,000-meter run, and 200-yard swim for the sports events plus a 20-kilometer speed march in full equipment, a marksmanship test with the G-3 rifle, a first aid test, and a commander's performance evaluation. In addition, the soldier can test for this badge in three successive grades — bronze, silver, and gold — with increasing requirements for each grade.

Soldiers in Germany can get in touch with their local partnership units for information on the testing cycle for this badge and can obtain authorization for wearing it from the 1st Personnel Command.

The high standards of this badge make it highly coveted in a country where it is one of the few peacetime awards; ex-servicemen are often seen wearing the lapel badge on their suits.

BO BARBOUR
CPT, Infantry
1st Division (Forward)
Germany

NO BADGE NEEDED

Reference Captain McEwen's article "A Fitness Badge," I believe a badge for physical fitness would be a replacement for the basic leadership and motivation that leaders at all levels must exercise. A commander's imagination is the only limit on awards that can be used to motivate soldiers to perform. But it is the personal responsibility and duty of every soldier to keep himself physically fit, whether or not an organized PT program is being conducted in his unit.

It seems to me that we should be developing soldiers to derive satisfaction from simply doing well and surpassing their past performance, instead of offering them a material reward. This is where leadership comes in.

In his proposed standards for such a combat fitness badge (CFB), Captain McEwen does not even recommend that 100 points be achieved in each event, only 75. He also suggests making weapons qualification part of the CFB test. We already have awards for this: marksmanship badges for all weapons, which most units don't take full advantage of anyway.

I've been in units where the soldiers couldn't wait to do PT each day and in others where they hated it. The factor that made the difference was leadership. We don't need any more badges to get people to do what they should be doing anyway. You can't substitute glamour for leadership.

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From The Editor

Captain Mike Bollinger, who served as our editor for 14 months, has been transferred to the Combined Arms and Tactics Department. Before he left he asked that he be given the opportunity to make a farewell statement. We are happy to oblige.

"During my time with INFANTRY Magazine, I have grown both personally and professionally because of my association with an outstanding group of people — the magazine's staff and its readers.

"I would like particularly to thank the staff members for their support of my efforts, for their exceptional professionalism, and for their dedication to excellence that has been the hallmark of the magazine for many years.

"To those of you who, during my tenure as editor, supported INFANTRY as contributors, as subscribers, or as just interested readers, let me assure you that you constituted a most important link in the magazine's chain of service to you and to the Infantry community.

"Thank you for your truly outstanding support, and I ask that you continue to give that same kind of support to my successor.

"TO THE INFANTRYMAN!"